

NUCLEAR NON-PROLIFERATION AND U.S. NATIONAL SECURITY

HEARINGS BEFORE THE COMMITTEE ON GOVERNMENTAL AFFAIRS UNITED STATES SENATE ONE HUNDREDTH CONGRESS FIRST SESSION

FEBRUARY 24, 25, AND MARCH 5, 1987

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CONTENTS

Opening statements:	Page
Senator Glenn	1, 27, 67
Senator Roth	29, 69
Senator Mitchell.....	30
Senator Bingaman.....	70
Senator Heinz	70

WITNESSES

FEBRUARY 24, 1987

Leonard S. Spector, Senior Associate, Carnegie Endowment for International Peace.....	2
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WEDNESDAY, FEBRUARY 25, 1987

Hon. Richard T. Kennedy, Ambassador at Large, U.S. Department of State, Washington, DC, accompanied by Lewis Dunn, Assistant Director of the Arms Control and Disarmament Agency, Fred McGoldrick, Acting Deputy Assistant Secretary for Nuclear Energy in the Bureau of Oceans, International Environmental and Scientific Affairs, Department of State; and Peter Brush, Director, Office of Nuclear Non-Proliferation Policy, Department of Energy	31
---	----

THURSDAY, MARCH 5, 1987

Richard N. Perle, Assistant Secretary of Defense, accompanied by Michael Huffington, Deputy Assistant Secretary of Defense for Negotiations Policy, Department of Defense, Gerald Brubaker, Assistant for Non-Proliferation Policy, Office of Non-Proliferation Policy, and Richard Speier, Assistant for Non-Proliferation Policy, Office of Non-Proliferation Policy	71
--	----

ALPHABETICAL LIST OF WITNESSES

Brubaker, Gerald: Testimony	71
Brush, Peter: Testimony	31
Dunn, Lewis:	
Testimony	31
Prepared statement	168
Huffington, Michael: Testimony	71
Kennedy, Hon. Richard:	
Testimony	31
Prepared statement with attachments.....	126
McGoldrick, Fred: Testimony	31
Perle, Richard N.:	
Testimony	71
Prepared statement	176
Spector, Leonard S.:	
Testimony	2
Prepared statement with attachments.....	97
Speier, Richard: Testimony	71

ADDITIONAL MATERIAL SUBMITTED FOR THE RECORD

Prepared statements of witnesses.....	97
Department of State cables.....	185

IV

	Page
Text of Ambassador Deane Hinton's speech, February 16, 1987	187
Letter to Chairman Glenn from Leonard S. Spector, April 24, 1987, with attachments.....	193
"Nuclear Nonproliferation," statement by President Reagan, July 16, 1981	197
"Preventing the Proliferation of Nuclear Weapons," address by Secretary Shultz before the United Nations Association of the USA, November 1, 1984	199
Statement by Hans Blix, IAEA Director General to the United Nations	203
Address by Ambassador Kennedy at the United Nations General Assembly, November 11, 1986	221

NUCLEAR NON-PROLIFERATION AND U.S. NATIONAL SECURITY

TUESDAY, FEBRUARY 24, 1987

U.S. SENATE,
COMMITTEE ON GOVERNMENTAL AFFAIRS,
Washington, DC.

The committee met, pursuant to notice, at 10:37 a.m. in room SD-342, Dirksen Senate Office Building, Hon. John Glenn, chairman of the committee, presiding.

Present: Senators Glenn and Sasser.

OPENING STATEMENT OF CHAIRMAN GLENN

Chairman GLENN. The committee will come to order.

Today's hearing was scheduled rather hastily, and I am grateful to our witness, Sandy Spector, for appearing on such short notice. Sandy Spector has followed nuclear proliferation matters for many years. We have worked with him in the past, and he is the author of a report released just this morning. It is the third of an annual series sponsored by the Carnegie Endowment for International Peace, providing a global survey of recent events bearing on the international spread of nuclear arms and the potential for it. This report includes comprehensive coverage of recent developments and adds new insights into the threat to U.S. security posed by nuclear proliferation.

This committee has a long-standing interest in assuring that our government is doing all that it can to prevent the further spread of nuclear weapons. Our reason for this is very straightforward: Nuclear proliferation constitutes a "... grave threat to the security interests of the United States."

Those words are not mine. They are encompassed in the Nuclear Non-Proliferation Act of 1978 which is the law of our land. We said when we passed that Nuclear Non-Proliferation Act way back in 1978 that we thought we had a limited time in which to stem the flow of nuclear weaponry to more and more countries around the world.

I felt at that time that we had maybe 12 to 15 years before nuclear technology was going to be so widespread that any nation that wanted to have a bomb could probably have one. I felt it was up to us to try to stem that flow of information and technology and equipment that would enable nations around the world to make nuclear weapons more readily than they would otherwise be able to do so.

When I read in the international news of the horrors that routinely fill the headlines, I am ever more convinced that we must protect both ourselves and the international community from the global insecurity that arises from the proliferation of nuclear weapons. We are not talking about Never-Never-Land, nor of threats so remote in time that neither we nor our children will ever have to take them seriously. We are talking about the peril that we are facing right now.

We have Pakistan ripe for the bomb; its neighbor India on the edge of developing a nuclear arsenal; Israel reportedly with an ever-growing nuclear stockpile; South Africa, in turn, reportedly secretly enriching uranium to weapons-grade; Brazil and Argentina with active programs at the same time refusing to adopt international safeguards on sensitive nuclear facilities; Iraq and Iran attacking each other's nuclear facilities; other countries pushing the commercial use of plutonium in an age when governments have been brought to their knees by international terrorism; nuclear submarine and missile programs now under way in many countries. With all of these activities now confronting our government, I believe the time has come to take inventory of the Administration's accomplishments and failures in preventing the spread of nuclear weapons.

We all hope that civilization will be fortunate enough to avoid the calamity of additional nuclear nations, regional nuclear arms races, and the devastation of a nuclear war. But avoidance of such nightmares ultimately will depend less on good luck than on good policies, and the foresight to make non-proliferation a top national priority. By underscoring—not only at today's session but at tomorrow's hearing with Ambassador Richard Kennedy, who oversees this area of non-proliferation for the State Department and our government, and next Monday with Assistant Secretary of Defense Richard Perle—that the spread of nuclear weapons puts our security in jeopardy, I hope to reinforce the theme that has guided almost all of our post-war efforts: we must stop nuclear proliferation before it stops us.

Now, Mr. Spector, welcome to the hearing this morning. We look forward to your statement or a summary, whichever you plan to give this morning. In any event, the full statement will be included in the record. Glad to have you with us.

**TESTIMONY OF LEONARD S. SPECTOR, SENIOR ASSOCIATE,
CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE¹**

Mr. SPECTOR. Thank you, Senator.

It is a great pleasure for me to testify before this committee on current trends in the field of nuclear proliferation. Unfortunately, the recent trends, trends over the past several years and last year, in particular, are extremely troubling.

We have new information on the Israeli nuclear program which has revealed that the scale of Israel's nuclear activities has been far greater than previously recognized. Details concerning Libya's attempt to purchase nuclear weapons in 1981 and newly unearthed

¹ See p. 97 for Mr. Spector's prepared statement with attachments.

evidence that the Shah of Iran had launched a nuclear weapons research program—which presumably has been inherited by the Khomeini government—underscore the risk of proliferation by these countries.

The threat of a nuclear arms race between India and Pakistan has also intensified, amidst increasing evidence that Pakistan has now manufactured all of the key components necessary to produce nuclear weapons for the first time.

India, of course, has been vastly enlarging its nuclear infrastructure and made important advances in the last year as well.

Worsening racial strife in South Africa, meanwhile, may lead Pretoria to reconsider its policy against nuclear testing and raises the fearful possibility that nuclear weapons or weapons material might fall into the hands of an extremist faction—of the left or the right—whose nuclear policies could prove even more dangerous than those of current leaders. This problem of instability and the risk of loss of control over nuclear materials and of inheritance by radical governments is also present in Pakistan.

In Latin America, however, the trends are a bit more favorable, but even here the situation is by no means entirely positive.

Let me review a number of these points in greater depth beginning with Israel. As you know, in early October, the London Sunday Times ran its exposé of the Israeli nuclear program based on the testimony and photos of former Israeli nuclear technician, Mordechai Vanunu. He had worked at the classified Dimona complex in Israel, and the Israeli government has acknowledged this.

Now, the key points in the exposé have not received that great attention in the United States, but they really are startling in comparison to what was known about the Israeli program previously. Most important, perhaps, is that the size of Israel's arsenal is not simply the 25 or so simple nuclear weapons that people like myself have been estimating for a number of years, but that the arsenal may now comprise 100 to 200 weapons. Moreover, Vanunu stated that in the early 1980s Israel began producing some form of advanced nuclear weapon that relies on the principle of the H-bomb; that is, on thermonuclear fusion.

I think the important point to bear in mind here is that these are recent trends. We often think about the Israeli nuclear weapons capability as something which arose in the late 1960s and is really behind us. We think of it as something we just have to live with, but in reality, even in the past several years, there have been these major advances in that program. This is an ongoing policy dilemma, and we have to devote more thought to how we address it.

Now, some lingering doubts remain as to the authenticity of Vanunu's testimony and his photos, but in general, they are being treated as credible. I am now attempting to double-check at least one of the photos—this is an exterior picture of the Dimona campus—by comparing it with a satellite photo taken by the S.P.O.T. satellite, (Satellite Pour L'Observation de la Terre) and brought down by Space Media Network in Stockholm. This analysis is in progress, and I will inform the committee if we determine that there is a discrepancy suggesting that these may be spurious photographs or that there is any reason to doubt this.

I will also advise you if we have confirmation that the picture is valid because I think this would also be an important development.

I would like to refer to photographs that I have supplied the committee said to be a model of the recent design of an Israeli atomic weapon. I believe what this shows is the silvery, shiny sphere that goes outside of the plutonium core of the weapon and serves as the tamper or the reflector. And I want to just point on this photograph, which I think is visible in the one you have there, that there is a line that goes through the silvery, shiny sphere.

In the next photograph, those two parts of the sphere have actually been unscrewed, and you can see a silvery sphere with the sort of "top" open; a smaller sphere of what appears to be plutonium—or at least represents plutonium is also shown; and then the lid of the shiny sphere is next to it.

Assuming this is a full scale model of the bomb, it looks as if the plutonium core is only about the size of a navel orange. One of the findings in the Sunday Times report is that the Israelis appear to be able to manufacture nuclear weapons with far less nuclear material than previously thought, and, therefore, that their arsenal is far larger than previously estimated—or at least that is one contributing factor.

I also want to point out again that the photos are only models. They do not show much of the bomb; they do not show the electronics or the details of the high explosives or fusing or the exterior shell of the bomb and the fins and so forth. They do, however, give a notion of what it means to possess components for a weapon and how easy it would be to assemble a weapon in a hurry. If these, in fact, are legitimate elements of an Israeli nuclear weapon, you could imagine the plutonium sphere being kept under guard in a vault, the other items being available for rapidly being put together. At least this part—the shiny sphere—seems to screw together very easily, and one could imagine that other elements might be attached as well.

This provides some understanding of what it means for a country to be a "screwdriver turn" away from nuclear weapons, a concept that I think is going to be very relevant as we turn to the Pakistani nuclear program a little bit later on.

At least one of these photographs has appeared abroad extensively, and I have been careful to ensure that they do not divulge any important technical information.

As I mentioned earlier, although this is supposedly a straightforward atomic bomb, Vanunu stated that since 1982 Israel had developed some kind of bomb using lithium deuteride, which is used in fusion weapons. According to Ted Taylor in his testimony in the Sunday Times, the yield of these weapons might be as much as 100 or 200 kilotons, and that puts them in the same ball park as some of the warheads in the American strategic arsenal. For example, I believe the individual warheads on the Trident I C-4 submarine-launched missile may be of this size. The missile, of course, has multiple warheads.

Now, as a totally separate matter from the Vanunu revelations, one other extremely important development in Israel which has been cropping up in some press accounts, and which I have confirmed to my satisfaction, is the country's deployment of the Jeri-

cho II missile during the early 1980s. The missile is supposed to have a payload of about 750 kilograms and a range of about 400 miles, although some Administration officials have hinted that it might even be able to reach as far as the southernmost parts of the Soviet Union.

I have not been able to confirm whether the missiles actually have nuclear warheads on them, as was suggested by the *Aerospace Daily* in June of 1985. That was the first current report to announce the deployment of these missiles.

But there has been one additional piece of confirmatory evidence, which was a *New York Times* report confirmed by an Iranian general who witnessed the event, that the missile was test-fired as early as 1977. I think it is not stretching the imagination to assume that a missile test-fired for the first time in 1977 might be deployed certainly by the middle of the 1980s.

In sum, it appears that during the past four or five years Israel has greatly enhanced its nuclear weapon capabilities, and I want to emphasize that, again. This is not a distant event; these are current developments.

Elsewhere in the Middle East, fortunately, Iran, Iraq and Libya appear to be far from possibly developing nuclear weapons indigenously, and I have prepared some charts which summarize their nuclear status. They have been attached to my testimony and are here in color. I would ask that the charts be included in the record with my testimony.

There is evidence, however, that although these countries have not been able to manufacture nuclear weapons, they have attempted to acquire the wherewithal for bombs on the black market. I want to stress very clearly that in my view there is no black market in nuclear weapons material or in nuclear weapons, but we are seeing expressions of interest in purchasing such items on the part of some of these governments. Last year, I reported that Iraq was involved in negotiations with an Italian arms smuggling ring to buy some plutonium which the Italians falsely claimed to possess. This year I obtained detailed documents concerning negotiations by the Libyan government with Edwin P. Wilson, John Heath and a Belgian by the name of Armand Donnay for the purchase of a nuclear weapons production plant and associated facilities.

Eventually, over 200 nuclear weapons were to be provided under this arrangement, ranging in yield from 150 kilotons to one megaton.

Now, this proposal, in my estimation, was a hoax from the start, although I have learned from Mr. Wilson that it started when a colleague of Donnay's, a Frenchman, who was responsible for destroying nuclear test equipment at the French test site in the South Pacific, obtained some of this equipment for testing and got it back to France. From there, they began to build up this ruse for a much grander kind of proposal.

Some of the photographs and other Xeroxes that accompanied the material that I have show pictures of brochures for some nuclear meters and various geiger counters and similar devices, and there are extensive Xeroxes from manuals for some of the more innocuous items that were going to be provided—all of which I think

were added to the more dangerous elements of the deal to give it some credibility.

Now, why the episode is interesting to me and why I consider it to be important is that the Libyans apparently sent senior negotiators to deal with Wilson and Heath, and the negotiations continued for several sessions. When the first proposal did not look like it really had too much in it, the Libyans sent the would-be sellers back to revise the proposal, and I have obtained—as I will explain in a moment—the second, revised version.

There was discussion, and I have mentioned it in my report, where the Libyans asked specifically what quality nuclear material the sellers had available. When the sellers said that they only had 20 percent enriched uranium which really cannot be used for bombs, the Libyans said "That's no good for us. We need 80 percent." According to Wilson, they wanted to see samples, and I think this is why the deal foundered.

Let me stress that Wilson himself, who is now serving a prison term in Marion, Illinois, claims that at the time of the negotiation he was working with the CIA and that he was participating in the affair so that he could report back on Libyan nuclear activities. He also claims that he was responsible for killing the deal, but others dispute this and claim that he was more the kingpin.

The issue of exactly who was at the center of the deal from the sellers' side is really not germane to the points I am trying to raise, which concern Libyan interest and the fact that the documents I have unearthed are authentic. Wilson has, indeed, confirmed this.

Now, as I spell out in my written statement, Wilson offered these documents to the prosecutors in his case. The prosecutors sent them to the CIA for analysis and were told that the documents did not contain a legitimate proposal to sell the bomb. The prosecutors refused to give Wilson any consideration, and the documents basically remained at the general counsel's office at the CIA until I obtained them via the Justice Department under the Freedom of Information Act.

The documents were drafted by Armand Donnay, the Belgian arms dealer who worked for Wilson, and this explains why the language and grammar is a little bit inaccurate.

I will not go through the proposal here page by page. I would call your attention to a summary of the document that I have provided the committee and to which I have attached the key parts of the proposal to sell nuclear weapons and equipment. The deal was to run from March 1 of 1981 until a maximum of September 1987, and part of the contract was to be a decoy. It was to involve the sale of a nuclear research reactor and some other items, but the essence of the contract was to involve the sale of a nuclear weapons test site, a facility for manufacturing nuclear weapons material, a nuclear weapons assembly plant, and then training and so forth with the troops.

One interesting part that I will call to your attention is on the fourth page of the document, entitled Appendix 5. It explains the command and control system. There was to be a safety key on each device, and I will just read. "For safety, each nuclear bomb or missile have a safety key lock, only the president"—this is Qadhafi—

"and the chief of staff control the 2 keys for release the safety." And I am quoting the English as it is in the contract.

In other case it is impossible (to) use the nuclear projectile.

We also have possibilities for adapted radio safety key, in this case only one radio transmitter using microprocessors systeme, [sic] can release the safety tought [sic] radio impulsion. But the last systeme [sic] is more dangerous, any body know radio code, can release the safety.

In case of Nuclear alarm, [sic] The President and chief of staff can send security officer on evry [sic] nuclear place, with the both safety keys and can use, in plus, the radio safety systeme [sic].

This is how the sellers were going to ensure that only Qadhafi could, in effect, control the bomb.

Some of the other illustrations show the nuclear weapon assembly plant. There is one Xerox from a genuine technical manual that has been included to show the kinds of things that were interspersed in the proposal to give it credibility.

Then there are some sketches of various bombs. The one that is most detailed, a sketch of a single bomb, with numerous arrows pointing toward various parts, makes mention of a hydrogen container, and the yield of this bomb, 500 kilotons; this implies that it was to be a hydrogen bomb.

The plant output from the warhead factory, given in Appendices 4 and 5 of the documents, was staggering. Between July 1986 and May 1987, the facility was to produce eight one-megaton bombs, 25 one-half-megaton bombs, and in addition, it was to turn out 35 nuclear warheads for Soviet supplied short range missiles and 155 nuclear warheads for tactical missiles.

The hoax is apparent if you realize how hopelessly difficult it would have been to achieve any of the deal's principal objectives: obtaining black market nuclear weapon material; obtaining European power reactor fuel so that its plutonium could be extracted; designing and building the high yield nuclear weapons; and mating them to existing munitions and rockets. In effect, Wilson and his colleagues were promising Qadhafi the moon, and I believe the Libyans saw through this very rapidly and the deal collapsed. As I said, Wilson claims that the deal was genuine, and that he put an end to it.

Now, let me turn from the Middle East to South Asia and underscore once again the disturbing trends of the very recent past.

It appears that even as we were learning of Israel's dangerous progress up the nuclear ladder, one additional nation—Pakistan—may have crossed the nuclear weapons threshold for the first time. I want to be very clear that my information is imperfect, and every time I say these words I try to qualify them carefully. But this is where I believe the program stands from what I have seen in the public record and echoes that I have heard from Administration sources, as well as a hint in a recent speech by the outgoing ambassador to Pakistan, Deane Hinton.

To restate the point, it appears that Pakistan now has the capability to build all of the key components for its first nuclear device. I say this, of course, appreciating that the committee has far more information on this than I do, but that is my estimate of where we are. If it is true, it is a very, very disturbing development.

We have also seen for the first time some statements by leading Pakistani officials expressing open enthusiasm for nuclear arming. The secretary of Prime Minister Muhammad Khan Junejo's Pakistan Muslim League, for example, declared in 1985: "We have learned to purify uranium. Now we should, with the help of God, produce an explosion." And some of the other senior officials have echoed some of these remarks, although Prime Minister Junejo himself and President Zia have tended to be very circumspect and to insist that the program is exclusively for peaceful purposes.

Now, in India, meanwhile, the Gandhi government for the first time obtained nuclear weapons-usable material, plutonium, that is totally free from external non-proliferation controls. It is worth pointing out that, although India had the nuclear test in 1974, that material came out of the CIRUS reactor supplied by Canada and used U.S. heavy water. Both the reactor and the heavy water were supplied under restrictions that permitted them to be used only for peaceful purposes. Unfortunately, we did not obtain safeguards on similar inspection sights to verify their pledge.

Now, there was a dispute with the Indians. They claimed the test was "peaceful," and, therefore, it was legitimate, but this has never been resolved. But India has never claimed the right to make nuclear weapons from CIRUS plutonium. That is why in the past year, when India for the first time extracted plutonium from a different unsafeguarded reactor—Medras I—built totally indigenously, an important threshold was crossed.

I should stress that at the time, India had ample plutonium for its civilian nuclear program, that is, for the breeder reactor from the CIRUS unit and other sources, but that plutonium, to state the point again, was restricted to peaceful uses. This is the first time they have obtained free and clear, weapons-grade material whose use for weapons cannot be challenged.

The recent war scare between India and Pakistan is a vivid reminder of the underlying hostility in the region and of its volatility. If both countries will now be able to deploy nuclear weapons on short notice, the dangers from a potential conflict will have been greatly heightened. Never before, I believe, have we had a situation where two nuclear-armed countries have shared a common border and have a history of prior wars and of tensions running as high as they are now in the subcontinent.

Let me stress once again that, although we, of course, know that India crossed the nuclear threshold in one sense back in 1974, and we have been hearing for years that Pakistan is almost there and so on, there have been important changes in the past couple of years and in the past year, specifically. These are very current developments that deserve our attention and our highest efforts to try to prevent from getting any further out of hand.

Turning briefly to South Africa, I believe the likelihood that Pretoria may test a nuclear device or declare itself to be a nuclear weapon state is increasing. The South Africans are believed to have had the capability to test probably since 1980 or 1981. This, by the way, is after the so-called "flash" in the South Atlantic—which was observed on September 22, 1979. But the Botha government has refrained from taking these steps—that is, refrained from testing or from declaring South Africa to be a nuclear power—largely

because of the desire to avoid damaging its relations with the West. These ties are now under increasing stress. The South African government is becoming increasingly isolated, and the added diplomatic costs of a test—which would give a major boost to white morale and demonstrate resolve against external pressure for racial change—could now seem acceptable to the Botha government.

This is speculation on my part. I do not have any evidence of this, but I think the playing field on which these decisions are being made is changing, and we must not be complacent simply because several years back we declared that this program was safely in hand; safely in hand in the sense that it was stabilizing at a certain level. It would certainly pose very serious dangers even if its status doesn't change significantly.

Second, as domestic violence escalates, the danger of a terrorist attack against South African nuclear plants is also increasing. Pretoria's sensitive Valindaba uranium enrichment plants, the key to its nuclear weapons capability, would be very inviting targets. I think in some respects these are the ultimate technological showpieces of the white South African regime. We have seen that there have been attacks on other important showpiece installations, and I think we have to be concerned that this might occur at the key nuclear sites.

Of course, there is also the risk that during a period of turmoil you might have nuclear weapons material falling into the hands of a sub-national group or into the hands of radicals. One right-wing leader, for example, has stated that if turmoil persists in the country it will be time for all "true" South Africans to seize power, implying that he and his party, and perhaps some of the security elements, might actually take this step.

I want to point out that historically we know of two examples now where, in the case of internal turmoil, nuclear weapons have come into play, one in France and one in China. The French incident was a coup attempt in 1961 where French generals in Algeria took control of the country and specifically of a nuclear weapon test site for a number of days; ultimately, as the coup lost its head of steam, an order from Paris was obeyed at the test site, and the nuclear device was detonated. The test device was a fizzle. It was apparently detonated in haste so that it would not fall into the hands, or at least remain in the hands, of the rebels in case they made a last minute effort to regain control of it.

I believe the evidence shows that there was a specific order on the part of the rebellious Algerian generals not to detonate the device—these are French generals now, I want to stress, not the Arab nationalists. The French generals in Algiers who were challenging the government in Paris sent an order specifically telling the people at the test site early in the coup attempt to hold on to the device.

We also have an episode in China in which Wang Enmao, an autonomous province chief, tried to hold out against the cultural revolution and efforts by Beijing to oust him by repeatedly threatening the Lop Nor test site. We know during this period at least, there was a Chinese nuclear test at the Lop Nor site, a test of a hydrogen bomb—China's second hydrogen bomb test—that was unsuccessful and did not have a fusion yield. This suggests again, that

the device became a bargaining chip, or at least the test site and these nuclear installations.

Thus there are historical episodes that remind us that where you have internal turmoil and the presence of nuclear weapons, you can have a very, very dangerous combination.

I would add that the nuclear dimension makes an orderly transition—power sharing and majority rule—in South Africa all the more urgent.

I will very briefly state that the trends in Latin America are a bit more positive. We have negotiations between Argentina and Brazil on mutual nuclear inspections and on many other facets of integrating the economies of the two countries, but the situation in Brazil bears close watching. Elements of the military there remain powerful, and some have openly advocated the development of a nuclear weapons capability, although not nuclear weapons themselves.

I would just provide one quote for the record, by the former Brazilian Navy minister, from September 1986:

If it was up to me to decide, I would make an atomic bomb and detonate it in front of international observers to demonstrate the extent of national technical know-how. One hates to see the big powers developing and detonating atomic, cobalt and neutron bombs without being able to do the same ourselves.

It is former Brazilian Navy minister, Maximiano Fonseca, speaking in September 1986.

I think I will stop my testimony there and now answer any questions you may have.

Chairman GLENN. Thank you very much, and I think there were copies of this available at the press table back there of the report, the book that is being released today.

Judging from the book, there is good news and bad news, I guess. The good news appears to be that some of the threats of proliferation appear to be receding, I gather, in your estimation, such as in the nuclear programs of Brazil, Argentina, Iraq, Iran, Libya, South and North Korea and Taiwan.

Why this trend on those nations? What are the reasons for these improvements?

Mr. SPECTOR. Well, I think in the case of Taiwan and South Korea, as I show, on the chart with the various colored boxes, these countries have really ceased to be a proliferation threat since the mid-1970s when they signed the Non-Proliferation Treaty. They have not really surfaced as major causes of concern since that time.

Chairman GLENN. Was this under pressure from us?

Mr. SPECTOR. That is my understanding. Of course, this was at a point when there was some question about American security guarantees in the region. I think those security guarantees have since been underscored, and the combination of pressure and the promise of support did the job.

So both countries are now Non-Proliferation Treaty signers. Neither has really taken any step in the recent past, that I am aware of, which would be cause for deep concern, although one has to recognize that the security situation in Taiwan is deteriorating from the Taiwanese standpoint. But I still have not found any new evidence on this.

In the case of the Latin American countries, the principal reason for change has been the change of administrations from military to civilian leadership.

As you recall, the military leaders in Argentina had been working on a secret nuclear installation for 5 years. It was announced in late 1983. This was the Pilcaniyeu enrichment plant that may eventually produce nuclear weapon material. The Argentinean civilian government moved the military figures out of the nuclear program and has tried to keep a lid on it, although construction work on that particular plant is continuing.

In Brazil, there is a similar pattern of civilian leadership, and I think that is the principal reason for this turnabout. I think there is a tendency on the part of military leaders in both countries to be very nationalistic and antagonistic toward the rival country. The civilians appear to be ready to open the doors for communication and to avoid confrontation.

As far as the Middle East states, Libya, Iraq, and Iran, here I think we are seeing a simple lack of capability. The 1981 Israeli raid on Iraq's Osiraq nuclear research reactor largely eliminated that country's capabilities, and of course, the Iran-Iraq war has tied up both countries, tied up their resources.

In the case of Iran, what was inherited from the Shah was limited. It did not provide a weapons capability. And, again, they have not been able to pursue this much further. There was an anti-modernization campaign initially, where Iran's Muslim leaders virtually abandoned everything nuclear. They are now, I understand, re-establishing elements of a nuclear power program, at least, if not more.

For Libya, again, the problem is lack of indigenous resources. So in a sense these countries are—I will not say self-policing, but there are inherent difficulties that they confront which have kept them in the category of countries that we need to monitor and be worried about, but these are not countries in the immediate forefront.

Chairman GLENN. Is this just a method of implementing what they would like to do? Are you saying it is just very difficult for them?

Mr. SPECTOR. I think that is right.

Chairman GLENN. Is their intention still to get nuclear weapons at the earliest opportunity, in your estimate?

Mr. SPECTOR. I think if these weapons were available, they would embrace them in most instances. I think the evidence in the case of Iraq was strong; the case of Iran is a little bit more ambiguous; and Libya, I would say, also strong, although in some instances the evidence such as the Libyan documents that I have been discussing, is a couple of years old.

Chairman GLENN. You mentioned there is indication that the Shah had a nuclear weapons program of some kind in mind. I was over there some years ago when the Shah was still there. One of the things that I brought up at that time in our meetings with him was our great concern that more weapons and more nations not go nuclear. His reply at that time was, well, he had 20 some electricity generating plants—I think it was 23—planned for the country of

a thousand megawatt capacity each, I believe it was, and that just to supply the fuel for that he needed a reprocessing plant.

Now, our concern was that that reprocessing plant might also give him weapons capability, which I talked to him about. He said that was not his intent and so on, but that he could really get the fuel cheaper if he had his reprocessing plant. And you can make a case for that when there are 23 planned plants there.

Now, is there additional information that they really were embarked on a weapons program, not just to supply fuel for their nuclear reactor generating plants?

Mr. SPECTOR. Let me make several points in response to that. I think one point that you alluded to is really central here. It is that, even if the Shah of Iran could have justified possession of nuclear weapons material or a nuclear reprocessing plant, in countries that are unstable, governments can suddenly change. We learned this in Iran; this was the classic instance of a government coming to power totally unexpectedly and whose posture was totally unexpected in terms of being radically opposed to East and West and having a fundamentalist, revolutionary character that determined not only domestic policy but foreign policy, as well. And it really underscores the importance of taking this "inheritance" factor into account in making nuclear exports and in thinking about the kinds of pressure that we have to apply to some of these countries to keep their programs in control.

Chairman GLENN. Well, I guess the bottom line question to me is: Is Khomeini continuing the Shah's interest in nuclear weapons?

Mr. SPECTOR. All right. Let me just mention what was transferred, and then I will return and answer that point very specifically.

Chairman GLENN. Okay.

Mr. SPECTOR. As I understand it, what was going on under the Shah was some laboratory research in the design of nuclear weapons and in assessing precisely how a nuclear weapons program could be put together. It was in an early stage, but it was an indicator of interest in acquiring nuclear weapons at some future time.

Parallel with that was a civilian nuclear program that was, as you mentioned, very extensive, although at the time that the Khomeini government took over only two nuclear power plants at Bushehr were under construction. In addition, there was an advanced nuclear research center in Tehran and a nuclear research reactor there which we supplied.

So when the revolution took place, there was the research on weapons—I assume it was transferred—the research reactor, a small quantity of U.S.-origin highly enriched uranium and the incomplete Bushehr nuclear power stations that were transferred to the Khomeini government.

Since that time, as I said, initially there was an anti-modernization thrust to everything the Khomeini government did, and all of these nuclear activities were put aside. But more recently, they have made efforts to re-establish the nuclear power program and they have opened a new research institute at Esfahan; so they are reconstituting the nuclear program at some level. I do not have specific indications that they are pursuing a weapons-oriented program, however.

If I might make one other point, one other factor that came up during this early period under the Shah was an effort by the Shah to obtain more than a weapon's worth of highly enriched uranium for the research reactor—that is, the U.S.-supplied research reactor in Tehran. The events took place in 1977, and using the Freedom of Information Act, I have uncovered a couple of interesting cables.¹

One cable is from the American embassy in Tehran urging Washington to release the material on the grounds that it was needed to make this research reactor more efficient. If that material were now in the hands of the Khomeini government, that government would have at least the rudiments for manufacturing a nuclear device. I think even if the Khomeini government did not take advantage of this, it would be something that would make us all very, very nervous.

As it turned out, the Carter Administration was enforcing a very tough policy on the export of nuclear-weapons-grade material. As you remember, President Carter looked at each one of these proposed exports individually, and Washington refused to give the material, so that the Shah was left with this lesser quantity. To reiterate, that lesser quantity of material was not transferred.

Let me just say that the——

Chairman GLENN. I think that was true of the last Administration, except for the shipment to India which we contested mightily and lost on.

Mr. SPECTOR. That is right. I think on the weapons grade material they were very cautious.

Let me just say that Iran is a party to the Non-Proliferation Treaty, and all of the nuclear installations that I have mentioned—the research reactor and so forth—are under IAEA safeguards. I believe they are taking steps to bring the two partially constructed power reactors under the IAEA system to give them some political protection so that the units are not bombed again by the Iraqis.

Chairman GLENN. What you are saying, in summary, is that you do not feel that this is as dangerous a lead-in to a weapons program now as might have been the case under the Shah?

Mr. SPECTOR. That is true, and as might have been the case had they inherited a more advanced program from the Shah, which 4 or 5 years down the road would have been in place. Even a purely civilian nuclear power program could have been misused had it been more advanced, and inherited by Khomeini.

Chairman GLENN. Well, given the difficulties you mentioned with Brazil, Argentina, Iraq, Iran, Libya, South and North Korea, and Taiwan, would you care to prioritize those as to which ones you think we should keep the closest eye on?

Mr. SPECTOR. I think I would probably do better not to. I think in some instances, Argentina and Brazil, the programs are more advanced and so that bears watching. We are seeing a little instability now in Brazil as a result of Mr. Sarney's economic problems, but certainly from the standpoint of U.S. foreign policy concerns and the dangers that countries might pose to the United States, Iran, Iraq and Libya are much higher on the list.

¹ Sec p. 185.

I would say I have categorized the group as countries to monitor, and I think I will stand by that characterization and not go beyond that.

Chairman GLENN. Okay. I said starting out there was good news and bad news. The good news was that the threat of proliferation appears to be receding in those countries I just mentioned, and we have had some questions on those.

I guess the bad news appears to be Pakistan's relentless pursuit of the bomb; the size and sophistication of Israel's nuclear arsenal—based on new information; India's growing capabilities to make and deliver nuclear weapons, and to produce plutonium; and South Africa's reported interest in keeping open its nuclear weapons option.

Obviously, any of these that are in the later development stages affect our national security interest rather drastically, it would seem to me. Would you care to go through each one of those and indicate what you think is a prognosis in those countries for the coming year?

Will any of them consummate a full nuclear weapons capability within the next year? In some cases, of course, like Israel, you have mentioned that you think it has weapons stockpiled already.

Mr. SPECTOR. I think one threshold or one line in the sand or red line—whatever we would want to call it—that has been successfully established over the years has been the line against nuclear testing by non-nuclear-weapon states. I think virtually every analyst who looks at the four countries you have mentioned—Israel, South Africa, India, and Pakistan—believes that these countries would hesitate very considerably and be extremely cautious before undertaking a test because of the international ramifications that it would have.

American law, of course, specifies that aid would be cut off in the event of a nuclear explosion. I think the impact around the world would also be quite severe.

I think what we may anticipate is the Israeli model, so to speak, being used in all of these countries; that is, keeping nuclear weapons available and building up capabilities and perhaps arsenals, but not announcing them and not testing.

Now, that has some definite benefits in the sense that if Pakistan were to test, it would certainly lead India to do the same, and I think vice-versa.

On the other hand, it should not lull us into a false sense of complacency, because as the Israeli advances I have mentioned demonstrate, even in the absence of a test it is possible for countries to advance quite significantly. And I believe the Indians, for example, do not take any comfort from the fact that a Pakistani weapon may exist that is untested.

Also, as I was mentioning earlier in terms of the ability to assemble weapons rapidly, the fact that a country may have these "in the basement" may still make these weapons very much available in the case of a conflict.

Chairman GLENN. Senator Sasser.

Senator SASSER. Mr. Spector, a firm is engaged in or will attempt to engage in the privatization of uranium enrichment technology

here in this country, I am told, hoping to sell reactor grade nuclear material in Europe.

Now, some of this fuel that is sent to Europe or is sold in Europe could be sought by others to further refine it and use as weapons for other countries.

Now, the NRC, I assume, will license the export of the privately manufactured nuclear fuel, but once it is out of the United States, we would lose control of it. And my fear is that this enriched uranium could be further enriched and used for nuclear weapons.

What is your reaction to that?

Mr. SPECTOR. I have not seen the details of the proposal for privatizing the enrichment program. I certainly would have some qualms about it.

My understanding, however, is that the legal restraints that would apply to recipient countries would still remain in force, our agreements for cooperation and our implementing regulations. Importing countries would still have to get our approval before retransferring the material.

At a more fundamental level, however, I believe privatization creates the wrong impression, the notion that this is pretty mundane commerce, and there it is okay for the private sector to take charge of it. I fear that we would somehow give the appearance of loosening restraints, even if the restraints were not loosened literally. I think just the opposite is needed. We need to underscore at every turn the necessity of maintaining the highest restraints on the transfer of these technologies and materials, and I think it sends the wrong message to be delegating some of these responsibilities to the private sector.

Senator SASSER. Thank you. Thank you, Mr. Chairman.

Chairman GLENN. Thank you, Senator Sasser.

You use most of the book to discuss the situation in the so-called proliferant countries, but what about the foreign suppliers? One of the reasons we had the Nuclear Non-Proliferation Act of 1978 was to try and stop the spread of technology and equipment which could be used to make weapons later on.

Who are the major players in the spread of nuclear technology and equipment that could lead to weapons, what countries?

Mr. SPECTOR. I think one country we have to put on the list that really was not a participant at the time of the Non-Proliferation Act is the People's Republic of China.

Now, this may be a changing situation, but what I have heard, based on press reports and echos from Administration sources is that China assisted Pakistan in some of its nuclear weapons activities, specifically those they had provided a nuclear-weapon design for the Pakistanis and assistance in the enrichment of uranium.

Now, at the time that the U.S.-China bilateral agreement was negotiated, China had supposedly ceased all this activity, or so the Administration indicated. I guess I have heard recent reports—which I have not been able to confirm, but I would urge the committee to look into—that some of the nuclear commerce between China and Pakistan may possibly have started again. This is not commerce that is relevant to the commercial agreement that was signed between China and Pakistan.

Chairman GLENN. China has had a relationship with Pakistan, but how about Brazil, Argentina, Iraq, Iran, Libya, South and North Korea, Taiwan—all of these different places that you mentioned earlier as being ones that had some interest? Then we go into Israel, India, South Africa, all the rest. That is quite a listing of countries that either have the weapon or have the capability or we think are working toward the capability.

What has been the source of their technology and their equipment?

Mr. SPECTOR. Well, of course, this varies. Let me just mention regarding China, that Beijing has also been accused of supplying material to South Africa and to Argentina. The Argentine transfer has been confirmed as a un-safeguarded transfer of about 20-percent enriched uranium. And there has been a report that China assisted India by supplying New Delhi with un-safeguarded heavy water. That is alleged in the study in Foreign Policy magazine by Gary Milhollin.

The principal countries of concern today, it seems to me, are largely operating along two tracks: Either they have acquired indigenous capabilities like Israel, India, Argentina, and Brazil, so that they can pretty much pursue nuclear programs as they like without resort to external suppliers; or they are taking the route that Pakistan appears to have taken, which is to circumvent supplier controls. And by suppliers now, I am really speaking about Western Europe.

Chairman GLENN. French, Germans, Swiss?

Mr. SPECTOR. I think so. But my understanding is that the governmental policies of the supplying countries are good policies. They do have restrictive export regulations, and they try to enforce them. But as in other areas where smuggling is involved, the enforcement is imperfect.

In the case of Pakistan, for example, it has been reported that agents will make multiple attempts to obtain specific items by attempting to get them from several countries simultaneously.

Chairman GLENN. How about the Soviet Union?

Mr. SPECTOR. Regarding the Soviet Union I have not heard any reports of leakage.¹

Chairman GLENN. That is my impression too from following this through the years, that fortunately the Soviet Union has been most responsible in this area and has not been responsible for the general spread of nuclear technology or equipment around the world. I guess if they look at some of the bloc countries they control, if they let this get out into some of those countries, they might have repercussions back against them.

Mr. SPECTOR. I think that is true.

There is another group of countries, which you alluded to, which are the so-called second-tier suppliers, the emerging industrialized nations: Brazil and Argentina, Taiwan and South Korea and so forth. By and large, these countries have been pretty restrained, from what I can tell, in what they are supplying. Some of them are entering into commercial nuclear agreements with other countries,

¹ See letter to Senator Glenn on p. 193.

and there is some technology transfer. But by and large, these countries have adopted the rules of the nuclear suppliers, which is to say they will not make exports except under IAEA safeguards; and some of them including Taiwan and South Korea are parties to the Non-Proliferation Treaty, which requires safeguards on exports.

Chairman GLENN. Yes, but how do we explain the French going in and building a reactor in Baghdad that the Israelis then knock out. How come we were not really that much aware of the problem until the Israeli strike occurred?

Is this going on all the time by countries that are very quiet suppliers, once that want to make some money and so they just sell their nuclear technology and equipment?

Mr. SPECTOR. I think that is over. I think the formal supply by the advanced countries of nuclear technology to countries of concern has stopped. Nobody is selling, for example, a nuclear power plant to Israel or to Pakistan, even though a power plant itself would not be a likely contributor to a nuclear weapons program. There really is an embargo on these things.

As I say, the problem is the enforcement, not the national policies in the supplier governments.

Chairman GLENN. How close are we to a point we have all dreaded where any nation that really wants a nuclear weapon can buy the technology and equipment to make it rather readily on the international market?

Now, Qadhafi had some problems and was dealing with the wrong person, but he might be more successful in the future. How widespread is the technology and the equipment to utilize that technology? Can any nation that wants a bomb can probably have it? Where are we on that timetable?

Mr. SPECTOR. Well, I think the Pakistani case may show that, indeed, this can be done. That is one of the reasons its program is so troubling. This has been a program that has taken 10 years or more. We all know the stories. Bit by bit, year by year, smuggling operation after smuggling operation, Pakistan's weapon capability has been put together.

I am not only referring to press accounts of these various smuggling operations but, to actual prosecutions that have taken place.

I do not think, however, it can be done overnight. I do not think you can mount a massive program and have nuclear weapons in a couple of years. The decade or more required by the Pakistanis I suspect is still the minimum, and they, at least, had some access to information relevant to one of the key technologies, which may have helped them along quite a bit.

Chairman GLENN. With regard to Pakistan, and we have mentioned it several times already this morning, the President, to continue military and economic aid to Pakistan, has to certify to the Congress that Pakistan does not have a nuclear weapon. Do you think the President can, in good conscience, certify to the Congress that Pakistan does not have a nuclear weapon at the present time?

Mr. SPECTOR. I really cannot speak for the President's conscience at this time, but I think what it may boil down to is a judgment of whether the possession of components for a nuclear weapon is tantamount, equivalent to possession of a nuclear weapon.

I must say this is where my information breaks down. I really would hesitate to make a firm judgment. But if we are only talking about the equivalent here—all the bomb components sitting in a couple of different vaults or what have you, versus having one assembled and ready to go—I think the certification would be disingenuous, and I believe the Administration has almost said as much.

There was a recent speech by Deane Hinton, who is now the outgoing ambassador to Pakistan that implied pretty clearly that in the future, at least, possession of components would be considered by the U.S. government to be possession of a device.¹ It may be that the Administration has provided a little leeway in the current year but has put Pakistan on notice that it will not do so again.

Chairman GLENN. This is a very tough one, because Pakistan, we are all well aware, is the conduit for supplies to the resistance in Afghanistan; and they have an active military program of their own—we have supported them in that. And yet at the same time, if we abide by our own law here, when we know what is going on in Pakistan—which we do from intelligence reports and estimates and so on—then we would be duty-bound to cut off that military help even though we want Pakistan to continue cooperating with regard to Afghanistan. So it puts us on the horns of a dilemma here policy-wise.

I have been over there. You mentioned Ambassador Hinton, an outstanding ambassador. I know him, stayed with him while we were over there, as a matter of fact, on a visit a couple years ago. I met with President Zia, with Munir Khan, Yaqub Khan, all the people that are running their program. We met with them for lengthy meetings, and they swear they are not going down the nuclear weapon route. But all the indications from international sources, from our own intelligence sources and everything else says they are driving as hard as they can to get that nuclear weapons capability.

We wind up with very carefully couched words like, "We do not have a bomb." Well, okay, maybe the components are there, but it has not been assembled yet. Maybe there are three screws left out of the casing or something. So maybe you can say that it is not a bomb right now. But then you get into these other considerations such as: is there a nuclear weapons capability that could be exercised in a very short period of time? If you put the wording like that, then the answers seem to get very, very vague.

So it puts us on the horns of a dilemma, and the President is probably going to have to certify once again next fall as to whether Pakistan has nuclear weapons or not. That is one that is going to be interesting to see what the representation is from the White House.

In your opinion, do you think Pakistan has lived up to its many formal and informal assurances to the U.S. government that it is not working on a bomb?

Mr. SPECTOR. I think the U.S. government has acknowledged that. The U.S. government, as I understand it, is going to request a

¹ See p. 187.

waiver of the Glenn-Symington amendment shortly. That amendment would come back into play, into force, next October.

Now, that amendment contains its own waiver. All the President has to do is certify—I do not have the language in front of me, but I will be able to get it—but certify, in effect, that there is no active nuclear weapons programs, that he has reliable assurance to that effect, that there is no weapons program ongoing in Pakistan.

That, of course, is what President Zia has said. Now, if the President believes those assurances, he can simply allow the old law to come back into play and exercise the waiver.

Chairman GLENN. We have seen before that we have received assurances from the Pakistanis that have proven less than reliable.

Mr. SPECTOR. That is correct. Now, if the President seeks any legislative waiver, it will mean that he does not consider the assurances he has received from Mr. Zia and Mr. Junejo to be reliable; therefore, I think the American government will be speaking on this topic very emphatically.

Chairman GLENN. There were rumors some time ago in the international nuclear community that Libya, Qadhafi, actually supplied the money to set up the nuclear plants in Pakistan with the idea that the Pakistani bomb was going to be sort of an Islamic bomb, if you will. And there were rumors that went along with that that some 20 tons of yellowcake were shipped from Niger through Libya to Pakistan for some of their efforts.

Now, this concept of a Pakistani-supplied Islamic bomb keeps cropping up from time to time. It has been denied by everyone, including our own intelligence people. Do you know of anything that would verify that, or is that just one of those rumors that starts?

Mr. SPECTOR. I have always thought of that story as having two different parts, or several parts. One was the funds going from Libya to Pakistan. It was my impression, and I think former State Department official Joseph Nye has testified on this, that, at least during his tenure during the late 1970's, intelligence could not rule that out.

What was up in the air and where there were greater doubts was whether Pakistan would actually share technology with another country. I do not think that Pakistan would.

As for the yellowcake, I guess that story has been told in such detail that I tend to give it credibility. I think what the intelligence community has really rejected is to say that there is an ongoing close relationship between Libya and Pakistan, and that Pakistan will offer Qadhafi the bomb once Pakistan has it.

I do not think that would occur, but that is not to say that there has not been some economic ties or the yellowcake transfer.

Chairman GLENN. We had a cut-off on military help to Iran that the rest of the world now knows was a hoax. We were actually shipping arms at the same time we were saying we were not and were encouraging everyone else not to do the thing we were doing.

What has been the effect of the U.S.-Iranian arms deal on the willingness of other nations to resume nuclear commerce with Iran. Has there been any movement in that area?

Mr. SPECTOR. My impression is that we did have one report that Argentina was reopening nuclear talks with Iran, and that Argentinean officials were quite explicitly questioning why they should

adopt a hard and fast embargo against nuclear sales to Iran when the United States, of course, was making these even more dangerous transfers.

I think the overall impact is probably greater. In many instances, our only tool in dealing with Western Europe or some of the other nations is jawboning and diplomacy; and when you have a setback, as we are experiencing now in our foreign policy, that makes all other foreign policy initiatives very difficult.

Chairman GLENN. Okay. Does the Argentinean offer, as far as you know, go beyond just helping rebuild that Bushehr reactor, or would their help possibly be of a sufficient technical competence that it could be used for weapons development?

Mr. SPECTOR. I am not really clear on that. I would have to go back and check into some of my material.

I anticipate that it would be more on the civilian side, but this would still be going against the grain of an embargo that we really have tried to enforce on all major nuclear sales.

Chairman GLENN. What is the status of Argentina's interest in helping rebuild Iran's nuclear capacity?

Mr. SPECTOR. I think it is limited to providing technical information about the Bushehr plants. I think that has been it. They have also sometimes provided technical know-how on uranium exploration. I think there may have been a tie between Argentina and Libya.

Historically, I think, there were a number of Argentinean officials that were associated with the Peron government who had to flee when the military government took power in Argentina, and they wound up in Iran working on the nuclear power program for the Shah, engaged in regulation and safety work.

I think the relationship bears watching, but I also think for the moment it is on a seemingly innocent path—although, as I say, contrary to American wishes.

Chairman GLENN. Israel's capability has considerably expanded, according to what you have in the book and what the London Sunday Times published. These pictures you have of the core of the Israeli bomb, these were given to the London Sunday Times by a former employee of the Israeli nuclear facility, right?

Mr. SPECTOR. That is correct.

Chairman GLENN. And is there any proliferation risk in publishing these photos?

Mr. SPECTOR. As far as I have been able to ascertain, no. I have consulted as widely as I have been able to in order to verify that they do not give out any technical information of interest.

Chairman GLENN. Anything shown in the pictures is already known?

Mr. SPECTOR. That is correct. Also, some of the photographs have appeared already abroad. One of them was in the major weekly in Brazil.

Chairman GLENN. A thought that would come to mind here with the bluff and double-bluff and triple-bluffs in the Mideast in diplomacy and so on: How do you know the Vanunu story is not a hoax which might have been very cleverly designed to impress Israel's neighbors?

Mr. SPECTOR. Well, I think we have to worry about that, and I have a feeling that the hoax possibility had a greater credibility before some of the recent developments, such as Vanunu's arrest and detention by the Israelis and his standing trial for treason. There was also the episode when on the way to the courtroom he put his hand up and had written on it information as to which flight he had been abducted from. As he left the courthouse that day, a canvas screen was put in front of him, I think these events suggest that he is being treated as a legitimate criminal by the Israelis.

Chairman GLENN. Who helped the Israelis get started on this track?

Mr. SPECTOR. It is my understanding that the principal suppliers were the French and that this was done in the wake of the Suez crisis when Israel felt it could not rely on the United States and when it felt that it wanted to move forward with this. France was then moving forward with its own nuclear program.

Chairman GLENN. Is that just the know-how or the equipment? The equipment that was sent down there originally, was that French?

Mr. SPECTOR. Let us see. First, the Dimona reactor was supplied by France. That has been acknowledged officially. The reprocessing plant for extracting plutonium from Dimona spent fuel was also supplied by France. That has been speculated upon for years. This past year in a follow-up story, the London Times got one of the French officials in charge of the sale to acknowledge France's role on the public record, a man named Francis Perrin.

Chairman GLENN. Are the French still involved there at Dimona now, or is that all strictly an Israeli operation now?

Mr. SPECTOR. I think that is strictly Israeli, although there is one other element that was supplied to Israel which is coming up now in a very important way. This was the heavy water needed to operate the reactor.

It turns out that much of this heavy water was supplied by Norway in 1959 under an agreement that gave Norway the right to inspect the material in order to verify that it was being used only for peaceful purposes.

There was one inspection made in 1961 before the reactor became operative, and in all the intervening years, with all the rumors of Israeli nuclearization, not a single further inspection was conducted. Only now, with Mr. Vanunu's exposé, have the Norwegians begun to consider whether they should inspect this material and verify how it is being used.

It is really critical. This is 20 metric tons of heavy water. I believe if the Israelis were deprived of its use, this would be an enormous setback for the program. I would argue that we need to vindicate these international controls; because if we fail to do so, I think it will have a deleterious effect on other controls such as those of the IAEA safeguard system.

This is not to say, I want to add, that this means turning back the clock. I think this could be done as a prospective matter.

Chairman GLENN. India: What role does the Soviet Union have in India's nuclear program? Any?

Mr. SPECTOR. Historically, the Soviets have supplied equipment and technology for the civilian nuclear power side, including heavy water. They have recently been offering to supply a nuclear power plant to India.

All of the Soviet exports are under International Atomic Energy Agency safeguards.

Chairman GLENN. All of the Soviet?

Mr. SPECTOR. Exports to India are under IAEA safeguards. Where there may be a deviation now in Soviet and American policy is that our policy would not be to supply even a nuclear power reactor to a country which had not placed all of its installations under IAEA inspection. The Soviets appear to be offering a power reactor with the requirement that only that installation be placed under it.

Chairman GLENN. You mentioned earlier the Soviets have been pretty responsible as far as not transmitting nuclear material, equipment and technology to a lot of nations around the world. Mostly, that has come through the free nations of the West where we cannot control that flow of information or equipment quite as tightly as the Soviets do.

But do you think the Soviets are acting to restrain India's nuclear weapons ambitions, or are they helping them in various ways? Do you have any indication of that?

Mr. SPECTOR. Well, I have not seen any open assistance being provided, although there is a mystery as to a certain quantity of heavy water that is not under safeguards that is in the Indian system. Allegedly, this was supplied by China, but that seems improbable. For political reasons perhaps the Soviets are more likely to have been involved, although I do not have any evidence of that.

How aggressively they have tried to use their diplomatic muscle to retard the Indian program is unclear. It looks to some extent as if the Soviet relationship with India is somewhat akin to ours with Pakistan. The Soviets have just supplied advanced MIG-29s to India. They have also been offering, a billion rubles worth of credits and so forth, and I think their efforts to keep ties to India strong have probably caused them to hold their hand a bit in working the nuclear issue.

Chairman GLENN. One other area I want to get into before we leave here. In this very room, you will recall—because you were on the Hill at that time—the two series of Rotow hearings, as we called them. This was a student at a major university who just out of literature walked into our staff director's office one day—Len Weiss here, Dr. Weiss—and plunked down a bunch of plans and wanted Len to look at them because he had designed his own nuclear weapon.

So Len went through these things, not being a specific nuclear physicist himself, but he looked at this thing and thought, well, as far as he was concerned it looked like it might work. They called Dr. Ted Taylor, who was mentioned in your testimony here earlier, who is a weapons design person. He used design bombs at Los Alamos. He looked at the plans and said, yes, if he had the material for it, it would probably go off, probably be a workable nuclear weapon.

Well, Mr. Rotow was unhappy that we stamped his stuff top secret and put it in the safe, and it was a long series of negotiations with him. I might add, I finally wound up recommending to DOE they hire him so they could put him on the payroll and get him off the streets and do some design over there—which they did not do.

Later on, there was a second design. We went through Roto II here, as it came to be known as, in this hearing room where we had him in as a witness.

The point I am making is this: All that seems to lack for someone to have a nuclear weapon is the physical material to put in the middle of it, with the weapon designed to accommodate whatever that level of enrichment is.

Now, that is not too complex, considering we have MUF information, as we call it—materials unaccounted for—in some of the enrichment areas. We worry about whether some plutonium could get diverted or not. We worry about HEW whether it could get diverted, because if it falls into the hands of terrorists or those who wish to do someone else ill with a nuclear weapon—international, domestic or whatever—one of these days, and I have lived for many years with the thought it was going to be a bad day, one of these outfits is going come out with a threat and say, "We have nuclear material, and here is where we got it," and they tell us. And we wind up with enough different areas of MUF material and/or there is some missing plutonium from somewhere, and we will really have to take these things seriously.

Now, we have the NEST teams that go out now when there are nuclear threats, and we have had instances where we actually cleared whole buildings. One was in Los Angeles, if you will recall some years ago. When the threats seem to have enough credibility, we have to check them out.

But I live in dread of the day, as we all do, when one of these days we find there really is some missing material, and that someone has designed a nuclear weapon to use that material and we really are held hostage to a terrorist situation that really has a nuclear credibility to it.

Now, where do you think we stand, having watched this program for many years? You said that, as far as you could tell, there is no black market. I noted that. I wrote that down when you said it awhile ago in your opening remarks. There is no black market in nuclear material. Is that by omission or commission or whatever?

Are we so good at protecting this around the world, and is everyone so scared of it that it is not likely to get out? Or have we just been lucky so far? What should we do?

Mr. SPECTOR. Let me just clarify one point.

I think I would want to say that there has been no black market in nuclear weapons material or in nuclear weapons. We do sometimes see commodities like yellowcake—uranium concentrate—and some of these others that you mentioned that do seem to find their way around in commerce, but are very distant from weapons grade material.

There was also, of course, the one episode involving Israel back in the 1960's where they were alleged to have obtained weapons grade material, but I was really speaking about the current period.

However, this is a growing threat because of the spread of plutonium production capabilities. I think we may be looking back a few years from now and saying 1987 was the year when this part of the problem really got out of hand.

I know a new agreement is coming up with Japan which will open the door there to extensive reprocessing and plutonium extraction far beyond what is going on now. These activities have been incrementally moving forward in Western Europe, and I think this does pose a danger. We even have explicit statements now by the head of the IAEA safeguard system, Mr. Tempus, about the difficulties of safeguarding this material when it is being processed in bulk. And there have been reports elsewhere in the world, in India, that material has been unaccounted for.¹

So I think the large scale of the activities involving plutonium that we are likely to see in the industrialized countries outside of the United States, is going to create the increasing risk of losing material, material that is just going to slip through our fingers in a sense.

Chairman GLENN. Well, when you say 1987 may be a critical year, that disturbs me. Either this information and the ability to make nuclear weapons grade material is getting so widespread that we cannot keep up with it any more; or there are some clandestine activities going on to get material from known suppliers or from where there are supplies. Do you think that is the case and is it that imminent in 1987?

Mr. SPECTOR. Let me try to clarify the point.

What I meant is that at this juncture there are a number of major nuclear installations around the world in Western Europe and Japan or agreements being negotiated which will pave the way for an enormous increase in the quantity of weapons grade material that may be available in the future. And it seems that this may be the year when we could try to put a cap on this and avoid the bringing on line of some of these installations.

As for the terrorist threat, that is always lurking in the background, and I think over the years we have seen an escalation in the magnitude of terrorist attacks.

Chairman GLENN. We can push to control what the United States does, but we cannot control what the French and others would do in that same area. Do you see them also letting their guard down?

Mr. SPECTOR. Well, I would say I think they are maintaining security at their installations as far as I can tell, but in terms of increasing the scale and magnitude of plutonium using activities, those are increasing rapidly in Western Europe—France, Germany, and Switzerland. And I think we can influence those policies; I just think this influence is not being exercised.

Things are getting dramatically worse, and perhaps a further look in the matter is necessary.

Chairman GLENN. Thank you. I think that is about all the questions I have. Does staff representing any other Senators have any questions you want to ask? [No response.]

¹ See p. 195.

We appreciate very much your willingness to come before the committee. I have not had a chance yet to read your book. I look forward to doing it here. I hope that in this monitoring of what is going on in this most important area to the whole world, I hope that the Carnegie Endowment keeps on with their yearly publication of this so we have a running record of what is going on; I trust you will be in the middle of that effort.

Mr. SPECTOR. Thank you very much.

Chairman GLENN. Thank you very much. The committee will be adjourned subject to the call of the Chairman.

[Whereupon, at 11:55 a.m., the committee adjourned subject to the call of the Chair.]



NUCLEAR NON-PROLIFERATION AND U.S. NATIONAL SECURITY

WEDNESDAY, FEBRUARY 25, 1987

U.S. SENATE,
COMMITTEE ON GOVERNMENTAL AFFAIRS,
Washington, DC.

The committee met, pursuant to notice, at 10:15 a.m., in Room SD-346, Dirksen Senate Office Building, Hon. John Glenn, Chairman of the committee, presiding.

Present: Senators Glenn, Roth, Sasser, Bingaman, and Mitchell.

OPENING STATEMENT OF CHAIRMAN GLENN

Chairman GLENN. The committee will be in order.

I apologize for being late this morning. We had the statement being done and we had some problems with our computer up there. The copies of the opening statements will be along shortly for the press table over here. I will go ahead from my own rough draft and start off on that this morning.

This morning we continue with our series of hearings on the threat to U.S. security posed by the continuing spread of nuclear weapons. I am pleased to welcome Ambassador at Large Richard T. Kennedy of the State Department as our witness today.

Back at his 1982 confirmation hearing, Ambassador Kennedy told us: "My role will encompass the responsibility for integrating, pulling together, organizing if you will," the Administration's nuclear proliferation policy. I am certainly anxious to hear from Ambassador Kennedy in this capacity.

Since World War II, the Executive Branch, Congress and the American people have all agreed that the spread of nuclear weapons threatens our national security. Accordingly, President Reagan warned in 1981 that "further proliferation would pose a severe threat to international peace, regional and global stability, and the security interests of the United States and other countries."

That is a strong and absolutely correct statement, but have we had policies that effectively address those concerns? Our hearing yesterday confirmed my fears that the prognosis for stopping the spread of nuclear arms is not good. In Israel, South Africa, India and Pakistan, the news was particularly upsetting.

I am not sure which is more disturbing: the worsening of the prognosis for these countries, or our view from this end of Pennsylvania Avenue that this Administration started from its earliest days to undercut our developing international controls—as witness the Malone proposals of those days which, in my view, would have

drastically reduced U.S. influence around the world. These proposals were stopped only after strenuous efforts from the Congress, this committee, and my own personal efforts in particular.

There are other concerns. Take terrorism, for example. The Administration wants us to believe that it is tough on terrorism, yet it continues to condone commercial trafficking and use of plutonium, a practice that could enable terrorists to obtain nuclear weapons.

The President tells us not to worry. He says "A country might have a weapon or two, but they are not going to have enough to threaten the world." The Congress and the American people know better. A bomb in the hands of an unstable and irresponsible country is a grave risk to U.S. security, one worth preventing before it is too late.

Countries with clandestine nuclear weapons programs, like Pakistan and Israel, have exploited the gap between the Administration's rhetoric and reality. Ambassador Kennedy recently assured this committee that "Pakistani nuclear restraint is essential to our ability to provide security assistance."

I agree completely with Ambassador Kennedy's statement, but the White House on the other hand has submitted a new, 6 year aid package to the tune of \$4 billion, even as the U.S. Ambassador in Islamabad warns that Pakistan may soon have in hand "all the needed components for a nuclear explosive device."

What is the national security cost to the Administration's inconsistency. Fledgling nuclear weapons programs in volatile areas mean greater strategic uncertainty for the United States. They add to the risk that terrorists will gain access to nuclear materials, either through theft, capture, revolution or coup; they threaten U.S. military forces deployed abroad; and they increase the chances that—through either a preemptive strike, an unauthorized or accidental use, or a premeditated nuclear attack—the United States could be drawn into a devastating nuclear exchange.

Those awesome potentials are what we tried to minimize with the Nuclear Non-proliferation Act of 1978 and additionally with the Symington-Glenn Amendments to the Foreign Assistance Act.

I do not know how the Administration hopes to manage such national security crises when the Defense Department has apparently not been included in important interagency discussions, as well as relevant policy and intelligence information.

To address that very specific problem, Congress passed legislation last year requiring that our defense experts get involved, but President Reagan dismissed the law as merely "advisory"—how they can put that interpretation on it, I don't know—and, in fact, has taken no steps to implement it.

I don't know what we are to believe. Are we to believe that the State Department has now supplanted the Department of Defense as the President's top advisory agency on national security issues? Perhaps we should have another look at the National Security Act of 1947.

The relationship between "non-proliferation and our U.S. security interests", Ambassador Kennedy told us back in 1982, "is at the core of President Reagan's policy." But in practice, the record tells us otherwise. This is not the first time that nuclear proliferation has been presented to the Congress as a key U.S. national security

priority, and I can assure you that as long as I am the chairman of this committee, it will not be the last.

We will cover as many of these problems today as time permits. It may be necessary to schedule additional hearings to develop the whole picture later on.

Ambassador Kennedy, we welcome you this morning and Senator Roth, do you have any remarks?

OPENING STATEMENT OF SENATOR ROTH

Senator ROTH. Thank you, Mr. Chairman. I am pleased that we are holding these hearings on the status of U.S. nuclear non-proliferation policy.

The testimony offered yesterday by Leonard Spector, senior associate at the Carnegie Endowment for International Peace, proved to be a good start in examining the recent developments in the field of nuclear proliferation. I am particularly interested in the comments this morning by Ambassador Kennedy and his insights regarding U.S. policy on nuclear non-proliferation.

I must confess that I have had long harbored reservations concerning our commitment to the cause of nuclear non-proliferation. Time after time I have seen the Department of State come to Capitol Hill to argue for nuclear sales to countries which refuse to open their nuclear facilities to inspection by the International Atomic Energy Agency.

These proposals are usually legitimated to the Congress on grounds that a U.S. sale will encourage the recipient nations to sign the nuclear non-proliferation treaty. In reality, the policy of appeasement does not bear fruit. Careful examination of the political context of the proposed sale strongly suggests that all parties knew that it would fail to deliver the goods promised to the Congress.

This is the case because all too often proposed sales to NNPT nations are designed to achieve short-term diplomatic benefits from the United States from the recipient nation. In short, the State Department seems to view overseas sales in the same terms as foreign aid, as a means to appease and cajole foreign governments into falling into line with U.S. policy objectives. Just as the poorer nations are propitiated with aid, so are nuclear supplies used to appease wealthier nations capable of developing nuclear power and, all too often, nuclear weapons.

Mr. Chairman, I would like to draw the committee's attention to a series of sales which the State Department has, in the past, proposed to make to South Africa. These proposals were rationalized to the Congress on the grounds that they would serve to induce South Africa to sign the NNPT.

In light of the numerous well-founded reports that South Africa now possesses an arsenal of home-made nuclear weapons, such claims must be taken with a very large pinch of salt. In reality, the so-called "nuclear opening" was part and parcel of our former policy of constructive engagement and had little or nothing to do with our non-proliferation policy.

South Africa was to be promised U.S. nuclear supplies and cooperation in return for falling into line with United States South Af-

rican policy, particularly with respect to Namibia. I think we are playing with fire when we tie the export of weapons-significant nuclear supplies to a diplomatic process as inherently faltering and tenuous as that in Namibia process.

Such sales should be considered only within the context of our non-proliferation policy and it is my considered opinion that they then should be routinely rejected.

Typically, cooperation between the Congress and the Executive on this issue has been, at best, poor. This is unfortunate because Congress is clearly interested. However, I am aware that Ambassador Kennedy has made a sincere effort to brief involved members prior to this hearing and I trust his presence here today will usher in a new cooperative atmosphere.

I must say I am also concerned about the degree of cooperation on this matter, between the Department of State and the Department of Defense and will be interested in learning about that.

Thank you, Mr. Chairman.

Chairman GLENN. Thank you. Senator Mitchell.

OPENING STATEMENT OF SENATOR MITCHELL

Senator MITCHELL. Mr. Chairman, I will ask that my full statement be placed in the record.

Chairman GLENN. Without objection.

[Senator Mitchell's statement follows:]

STATEMENT OF SENATOR GEORGE J. MITCHELL

Good morning, Mr. Chairman. I am pleased to join you and the other members of the committee to receive testimony from Ambassador Kennedy relative to the Administration's policies to prevent the spread of nuclear weapons.

Today's hearings is one of a series of hearings that will explore how proliferation of nuclear weapons poses a real and substantial threat to this country's national security.

There is a great deal of attention, and correctly so, focused on the nuclear arms race between the world's two major superpowers. Not enough attention, however, is being focused on the dangerous nuclear proliferation among other nations going on concurrently.

I'm sorry that I was not able to attend yesterday's hearing at which Leonard Spector presented the findings of the third annual report by Carnegie Endowment for International Peace on the spread of nuclear arms.

But I have had an opportunity to review Mr. Spector's testimony. I think it presents an excellent picture of recent developments in this arena. It represents a solid foundation upon which the remaining hearings can build.

During the course of these hearings, we will solicit the views of representatives from a number of government agencies on the adequacy of existing policies and organizational resources to define, address, and respond to these threats.

I am interested in hearing from Ambassador Kennedy's and others how this nation can play the leading positive role I think this Committee would like in non-proliferation issues when this Administration's policies clearly:

Commit us to continued massive nuclear arms buildup and the rejection of real arms control;

Have dramatically shifted resources within the Department of Energy away from energy research and developments toward nuclear weapons development;

Support an expansion of nuclear power generation both here and abroad; and

Demonstrate an unwillingness to inhibit the growth of reprocessing and breeder reactor development around the world.

I want to commend you, Mr. Chairman, for scheduling this morning's hearing, indeed the series of hearings this Committee will hold in the coming weeks on this significant issue.

Since coming to the United States Senate, you have been a leader in addressing the dangers inherent in nuclear proliferation.

I have little doubt that you'll continue to vigorously pursue this issue during the 100th Congress. I look forward to working with you in that endeavor.

Senator MITCHELL. I merely want to commend you for continuing your leadership in this area. A great deal of public attention focuses on the nuclear arms race between the two super powers. There is insufficient attention devoted to the problem of proliferation among other nations and the threat that poses to the peace and stability throughout the world.

I am sorry that I missed yesterday's hearing, but I have had a chance to review Mr. Spector's testimony. I think it offers a very good starting point and I look forward to hearing from Ambassador Kennedy.

Chairman GLENN. Thank you.

Ambassador Kennedy, you have a lengthy statement, I would hope that we might be able to summarize that. It is some 35 pages here. I am afraid we would take up most of our time this morning if we read all of it here. I would hope that perhaps in 10 or 12 minutes you might be able to summarize that and we could get on with the discussion.

TESTIMONY OF HON. RICHARD T. KENNEDY, AMBASSADOR AT LARGE, U.S. DEPARTMENT OF STATE, WASHINGTON, DC,¹ ACCOMPANIED BY LEWIS DUNN, ASSISTANT DIRECTOR, U.S. ARMS CONTROL AND DISARMAMENT AGENCY,² FRED McGOLDRICK, ACTING DEPUTY ASSISTANT SECRETARY FOR NUCLEAR ENERGY IN THE BUREAU OF OCEANS, INTERNATIONAL ENVIRONMENTAL AND SCIENTIFIC AFFAIRS, DEPARTMENT OF STATE; AND PETER BRUSH, DIRECTOR, OFFICE OF NUCLEAR NON-PROLIFERATION POLICY, DEPARTMENT OF ENERGY

Ambassador KENNEDY. Senator, I will with your permission, summarize my testimony. I would like to, of course, have the entire statement placed in the record.

Let me also note, Mr. Chairman, that I am accompanied by Mr. Lewis Dunn, on my right, who is the Assistant Director of the Arms Control and Disarmament Agency and on my left, Mr. Fred McGoldrick, who is Acting Deputy Assistant Secretary for Nuclear Energy in the Bureau of Oceans, International Environmental and Scientific Affairs in the Department of State.

And also with us, Mr. Peter Brush, the Director of the Office of Nuclear Non-proliferation Policy in the Department of Energy.

We are prepared and will be prepared to answer questions, of course.

Mr. Chairman, we thank you for the opportunity to appear before the committee and discuss the Administration's efforts to restrain the proliferation of nuclear weapons. Committee staff informed me that the committee was particularly interested in discussing the substance and implementation of the Administration's non-proliferation policy, our efforts with regard to so-called "sensitive countries" and questions involving plutonium use, the concept of timely warning and the organization of the Executive Branch for

¹ See p. 126 for Ambassador Kennedy's prepared statement.

² See p. 168 for Mr. Dunn's prepared statement.

carrying out non-proliferation policy. My testimony, of course, will review each of these areas.

The President seeks, as a fundamental objection, Mr. Chairman, to reduce the dangers to world peace and global stability posed by the potential proliferation of nuclear explosives. Let me underline that objective. It is a firm and absolute commitment on the part of the President and I want to be sure that the record is clear.

The essence of the President's policy was outlined in his statement of July 16, 1981 in which he articulated a specific series of steps to achieve these objectives. With your permission, Mr. Chairman, I would like to offer for insertion in the record at this point, the full text of the President's July 16, 1981 statement on United States non-proliferation policy.

Chairman GLENN. Without objection, it will be entered into the record.¹

Ambassador KENNEDY. As I have indicated in previous testimony before this committee, Mr. Chairman, the Administration is pursuing a series of specific objectives in support of the President's policy and goals. Most broadly stated, we want to ensure that there will be no new nuclear explosions by non-nuclear weapon states, and also that there will be no addition to the number of so-called "threshold states," countries which lack only a political decision to explode a nuclear device.

We seek to involve other responsible members of the international community in a cooperative effort against proliferation, and we seek to address the underlying causes of nuclear proliferation, not just its symptoms. My full statement notes a number of specific steps which we are taking in this regard.

Mr. Chairman, the Secretary of State has also spoken personally and forcefully on the importance of our non-proliferation efforts. In his November 1984 address to the United Nations Association, the Secretary set forth the approach utilized by the Administration designed to facilitate cooperation with our allies and friends and to ensure us an effective leadership role in international nuclear affairs.

In brief, the Secretary made a series of specific points I would like to recite:

First, the United States supports nuclear power, recognizing that nuclear generated energy will be increasingly important for the economic development and energy security of many nations around the world.

We must make rational distinctions between close friends and allies who pose no proliferation risk and those areas of the world where we have real concerns about the possible spread of nuclear explosives.

Emphasis must be placed on closer consultation and cooperation with our nuclear partners in this effort.

Broadening the dialogue with non-NPT countries can lead to a strengthened safeguards regime and the possible enhancement of regional stability.

¹ See p. 197.

Improving U.S. export controls—the technical side of the non-proliferation issue—helps to prevent the acquisition of nuclear explosives by countries which seek that capability.

Strengthening IAEA safeguards is a key part of our effort, both as to improving the inspection capabilities of the IAEA and as to seeking adoption of comprehensive safeguards as a condition of nuclear supply.

Finally, Mr. Chairman, the Secretary made clear that we must not ignore the legitimate needs of technologically less advanced nations that wish to share in the peaceful uses of the atom.

Again, Mr. Chairman, with your permission, I would like to offer for insertion in the record the Secretary's address.¹

Chairman GLENN. Without objection.

Ambassador KENNEDY. Our efforts to support and strengthen the International Atomic Energy Agency in its vital safeguards, technical cooperation and nuclear safety roles, are crucial elements in meeting our overall non-proliferation objectives. We have reported fully to the committee on these programs recently. I will not repeat them.

I could dwell at length on the importance of the IAEA and its programs, Mr. Chairman, addressed in my full statement. But with your permission, I would simply again, if you would allow, insertion in the record the report of the Agency's activities delivered by the IAEA Director General, Hans Blix, to the United Nations General Assembly last fall.²

Chairman GLENN. Without objection, so entered.

Ambassador KENNEDY. With it, I would like to insert also the statement which I delivered at the UNGA, in support of Dr. Blix' statement.³

Chairman GLENN. Without objection, it will be entered.

Ambassador KENNEDY. Intensive bilateral discussions, sir, are a key part of our effort to develop an international consensus on non-proliferation. They are conducted, on a regular basis, with over 20 countries including the United Kingdom, France, West Germany, Japan, Canada, the Netherlands, Belgium, Switzerland, Italy, China, Argentina, Brazil, South Korea, South Africa, and the Soviet Union.

I would like to take particular note of our extensive non-proliferation consultations with the Soviet Union. Although I do not set them apart, I would like to note them. These detailed parts on nuclear non-proliferation have demonstrated that the U.S. and Soviet interests are frequently congruent in this area. Both President Reagan and Chairman Gorbachev have stressed the positive contribution of these discussions and both sides are committed to furthering fostering this dialogue.

Pursuant to Section 404(a) of the Nuclear Non-proliferation Act, the United States initiated a program, Mr. Chairman, in 1978 to renegotiate existing agreements for peaceful nuclear cooperation in order to incorporate the undertakings which were required for new agreements under the Atomic Energy Act, as amended.

¹ See p. 199.

² See p. 203.

³ See p. 221.

Since the NNPA was enacted in 1978, the United States has renegotiated or negotiated 13 agreements which meet all of the requirements of the Act. These agreements are with Australia, Bangladesh, Canada, China, Colombia, Egypt, Finland, the IAEA, Indonesia, Morocco, Norway, Peru, and Sweden.

Major efforts have been focussed on renegotiation of existing agreements with Japan and with EURATOM. The policy enunciated by the President in his July 1981 statement was not to inhibit civil reprocessing and breeder reactor development in countries with advanced nuclear programs where they do not pose a proliferation risk.

Consistent with that policy, the United States offered both Japan and EURATOM new arrangements whereby the United States would give advance, long-term consent to reprocessing of materials subject to U.S. controls and to the use of plutonium produced from such materials, so long as United States statutory requirements are fully fulfilled and necessary safeguards and physical security arrangements assured.

Our meetings with EURATOM on this subject have continued on a periodic basis since the Community agreed in July 1978 to enter into discussions concerning the existing agreement for cooperation.

I am pleased to note that *ad referendum* agreement has been reached with Japan on the text of a proposed new agreement. The text has been circulated to the Executive Branch agencies and to the Nuclear Regulatory Commission for their review.

Mr. Chairman, this might be a good place to say a word about how the interagency process works with regard to negotiation of an agreement for cooperation. The Atomic Energy Act provides that any proposed agreement for cooperation shall be negotiated by the Secretary of State with the technical assistance and concurrence of the Secretary of Energy and in consultation with the Director of the Arms Control and Disarmament Agency.

The act further provides that after consultation with the Nuclear Regulatory Commission, the agreement shall be submitted to the President jointly by the Secretaries of State and Energy accompanied by their views and recommendations and those of the Nuclear Regulatory Commission and the Director of the Arms Control and Disarmament Agency.

The Director of ACDA also provides to the President, independently, an unclassified Nuclear Proliferation Assessment Statement concerning the adequacy of the safeguards and other control mechanisms and the peaceful use assurances contained in the agreement to ensure that any assistance furnished thereunder will not be used to further any military or nuclear explosive purpose.

Section 123 of the Atomic Energy Act requires that a series of specific criteria established by the Congress be incorporated in each agreement for cooperation. These criteria include the application of IAEA safeguards in non-nuclear weapon states, prohibitions against nuclear explosive or military use, retransfer controls, application of physical security, and controls over reprocessing of spent fuel of U.S. origin and the alteration in form or content and storage of certain types of nuclear materials.

In most cases, negotiations have been undertaken based simply on the provisions of previous existing U.S. agreements supplement-

ed by the new requirements of the Atomic Energy Act. In some cases, however, agreements may raise particular policy questions which require interagency review and consideration by the President prior to the initiation of negotiations.

Such was the case, indeed, with the Japan and Euratom agreements because of the issue of long-term or programmatic approval of reprocessing and the use of plutonium. The process involved not just the agency specified in the Act, but the Departments of Defense and Commerce as well.

An interagency group considered the issues, and recommendations were made to the President accompanied by the views of the relevant agencies before negotiations began. A similar process was followed with regard to the initiation of negotiations with China.

This interagency process is also utilized in making recommendations to the President on whether to proceed to signature of a particular agreement.

Discussion of the Japan and EURATOM agreements for cooperation also provides, Mr. Chairman, an appropriate opportunity to discuss the Administration's policy on programmatic approval and plutonium use. As I indicated, that policy is based on the President's decision in 1981 not to inhibit civil reprocessing and breeder reactor development in countries with advanced nuclear programs where they do not pose a proliferation risk.

We recognize full well that plutonium must be carefully controlled and safeguarded. The President has categorically reaffirmed our commitment to inhibiting the transfer of sensitive nuclear material where the danger of proliferation requires restraint. Sensitive nuclear facilities and activities should be limited to those countries where their presence results in no significant risk of proliferation. We have urged that this view be accepted as an international norm.

But it must be realized that the United States is simply not in a position to dictate or to prescribe a policy on reprocessing or plutonium use for developed countries with advanced nuclear programs which have committed themselves to using plutonium to meet their future energy needs. The facts are that the United States has consent rights over no more than half of the existing spent fuel in the free world and that percentage will continue to drop in the coming years.

Our programmatic approval policy recognizes that advanced civil nuclear programs involving reprocessing and plutonium use already exist in certain countries where they pose no proliferation risk and that these programs will go forward regardless of any attempt by the United States at dissuasion. We have tried very hard to dissuade. It has not worked and it is not likely to work.

Thus, the Administration believes that our only realistic course is to work with these select countries who are not proliferation risks to help improve safeguards and controls over the sensitive technology and materials that they are now and will be using.

Mr. Chairman, with respect to plutonium use, I understand the committee is also interested in discussing the concept of "timely warning." As the committee is aware, the Secretary of Energy may not approve subsequent arrangements for reprocessing or for retransfer of plutonium use unless in his judgment, and that of the

Secretary of State, the activity will not result in a significant increase in the risk of proliferation beyond that which exists at the time the approval is requested.

In order to reach this judgment on proliferation risk, the Department of Energy—along with other interested departments and agencies—has established a detailed procedure, steps that are followed in each case. Chief among these factors is the requirement that the Department of Energy prepare an analysis evaluating all of the factors relevant to the case.

The factors taken into account in these analyses, which are submitted to Congress, include the application of IAEA safeguards, the technical capabilities of the recipient country, the country's commitment to non-proliferation including treaty commitments to forswear nuclear explosives, and the likelihood that changes in these or other circumstances would provide the United States with warning far in advance of the time when the recipient could transform diverted material into an explosive device.

In order to fully consider the question of timely warning, political factors, including judgments about the diplomatic relationships and influence that the United States has or may have with respect to the country in question, are taken into account by the Department of Energy where they are relevant to the ability of the United States to detect in advance indication that a diversion might soon occur or even had occurred.

The committee asked also that I address our efforts with regard to countries which have not adhered to the Non-Proliferation Treaty or otherwise accepted IAEA safeguards on all their nuclear facilities. I am happy to review the Administration policy and efforts in these areas, but I realize that the committee will understand if I must indicate that certain questions which the committee may have could only be addressed in a closed session.

South Asia, this is an area at the forefront of the Administration's proliferation concerns. While President Zia and Prime Minister Junejo have made public assurances regarding the peaceful nature of Pakistan's nuclear program, we have continued to convey to the Government of Pakistan on repeated occasions and at the highest level our concerns about unsafeguarded nuclear activities in that country. We have also made clear that Pakistani nuclear restraint is essential to our ability to provide security assistance.

More fundamentally, Mr. Chairman, any lasting solution to South Asian nuclear issues lies in a dialogue between India and Pakistan leading to a significant non-proliferation step or steps by both. I would note that India and Pakistan have agreed not to attack each other's nuclear facilities. We have urged both parties to undertake a broader dialogue on other confidence building measures.

As I have indicated in previous testimony, President Zia, at the United Nations General Assembly in 1985, and in subsequent statements, has indicated that his government is prepared to undertake jointly with India accession to the NPT, acceptance of full-scope safeguards, mutual inspection of nuclear facilities, a joint declaration renouncing acquisition or development of nuclear weapons, or the establishment of a nuclear weapons free zone in South Asia.

We have urged, and continue to urge, both sides to follow up on just these kinds of proposals. We have urged India to respond either to these proposals or by making some of their own.

South Africa's unsafeguarded nuclear program remains a source of continuing concern, as you have noted. While South Africa has two nuclear power reactors and a research reactor under IAEA safeguards, it also possesses a significant unsafeguarded nuclear program, including a pilot uranium enrichment facility.

We have consistently encouraged South Africa to adhere to the NPT and to accept full-scope safeguards. We have also encouraged discussions which have taken place between South Africa and the IAEA on the application of safeguards to a new semi-commercial enrichment facility which will shortly be ready for operation. While these discussions are far from concluded, good progress has been made, and we hope South Africa will continue these talks.

I should add a statement on South Africa in reference to a comment made by Senator Roth. I would like to assure him that the United States does not engage in any nuclear commerce of any significance with South Africa. None whatever.

Israel is another country, as I said, which has not accepted the NPT nor IAEA safeguards. There again, we do not engage in significant nuclear cooperation with Israel and have not renewed the nuclear cooperation agreement. It expired in 1977. The Administration continues to urge Israel to adhere to the Non-Proliferation Treaty and to accept full-scope IAEA safeguards.

The non-proliferation situation in Latin America appears increasingly positive. I do not mean to say that the problems are over. I am simply saying there are some positive signs. There are continuing discussions between Brazil and Argentina on confidence building measures. The Administration has urged both Brazil and Argentina to take the steps necessary to bring the Treaty of Tlatelolco into force for themselves and to place all of their nuclear facilities under IAEA safeguards.

Since the successful conclusion of the third NPT Review Conference in September 1985, the United States has continued an intensive effort to increase adherence to the NPT. During this time, the United States has approached approximately 20 non-parties including the significant non-parties, Argentina, Brazil, India, Pakistan, Israel, and South Africa. I would add, not only alone have we done this, but in concert with many other countries who are seeking the same objective.

Since the conference, five additional countries have, in fact, become parties to the treaty, Colombia, Malawi, North Korea, Trinidad, and Tobago, and the Republic of Yemen. I would add this morning that we have been advised that yesterday the Prime Minister of Spain, in an address to Parliament, announced that Spain will adhere to the Non-Proliferation Treaty and we have indications that others also may be close to joining.

A key element in our non-proliferation efforts is implementation of an effective system of export controls. The Administration believes we have met this challenge successfully with our domestic system of export controls and we have also achieved significant progress in our efforts to improve export control systems worldwide. We continually alert supplier countries of specific transac-

tions which have come to our notice and that may raise proliferation concerns.

Significant progress also have been made in the NPT exporters group, the Zangger Committee, in refining and upgrading the safeguards trigger list. Gas centrifuge enrichment and reprocessing efforts, these sensitive technologies have also been significantly upgraded. These have been successfully completed now and discussions are underway concerning upgrading the list to cover other sensitive technologies.

The potential of nuclear terrorism you mentioned, Mr. Chairman, has been receiving considerable increased public attention. The United States has a well-developed capability to evaluate and respond to a threat of nuclear terrorism. Detailed procedures have been developed for responding to any specific threat, whether it arises in the United States or elsewhere.

The Convention on the Physical Protection of Nuclear Material, which entered into force on February 8, 1987, also is an important tool in the effort to prevent nuclear terrorism.

Mr. Chairman, you mentioned the question of organization. I have outlined some of the aspects of the organization of the government in this respect. But let me add just a further word or two. As I testified on numerous occasions, non-proliferation policy and action is not carried out only by the Department of State but appropriately, as it must be, by other parts of the Executive Branch, including the National Security Council Staff, the Arms Control and Disarmament Agency, the Departments of Energy, Defense and Commerce.

The Nuclear Regulatory Commission also plays a key role in nuclear export licensing, in its reviews of subsequent arrangements, in its efforts supporting IAEA safeguards and its participation in discussions of physical security with foreign countries.

As to my own role, the President indicated that I would coordinate and direct U.S. non-proliferation efforts. I represent the President and the Secretary in discussions and negotiations on non-proliferation matters with other governments, before the Congress, and in other public fora.

The United States government devotes substantial resources, Mr. Chairman, both in terms of budget and personnel, in pursuit of our non-proliferation goals. At the State Department alone, our best estimate is that something like 40 man-years, these are professional man-years, of effort are devoted to non-proliferation and nuclear energy matters each year. This does not even include our Mission in Vienna nor the time expended by staff in regional bureaus and our other overseas posts. Our appropriation for voluntary contribution to the IAEA contains \$6 million for the POTAS program, which is a program to increase and improve safeguards and \$1.5 million for other research and assistance in this area.

The effort of other agencies we have been able to pull together would show a total of over 40 more man-years and another \$10 million in direct expenditures. This does not include the substantial input being given by contractual arrangements with the laboratories, for example.

Looking to the future, Mr. Chairman, I can only say that the record, we believe, and the positive results of the past are some of

which we are proud of. Over the past few years, we have seen a successful NPT Review Conference and new adherents to the NPT. Upgrades in the international trigger list for export controls. We have strengthened the IAEA safeguards program and have had productive discussions with the Soviet Union and some 20 other countries on non-proliferation on a regular basis.

We have also negotiated a number of important new or amended agreements for cooperation involving all of the requirements of the Non-Proliferation Act. We have developed an enhanced nuclear safety program in the IAEA and the Nuclear Energy Agency. We have successfully negotiated nuclear accident reporting and emergency assistance conventions. We have reduced politicalization in the IAEA, which was damaging its effectiveness. We have increased sensitivity by emerging suppliers, including China, South Africa, and Argentina to the need for IAEA safeguards on their own nuclear exports.

We have increased the dialogue substantially between the United States and non-NPT parties. And we have brought the Convention on Physical Protection of Nuclear Material into force.

Obviously, Mr. Chairman, this is not an exhaustive list. We think it is one in which we can take pride. We do not for the moment, however, sit back. Overall, while there has been continued progress, there are problems remaining. The regime is being gradually strengthened, and we can take heart from the progress but we must continue to work.

For the future, I believe the following will require our greatest attention:

Seeking the acceptance of full-scope safeguards by the major non-NPT parties, and in particular obtaining a successful resolution of the situation in South Asia.

Improving safeguards for sensitive technologies.

Providing the necessary resources for the expanding demands on the IAEA safeguards program.

Harmonizing the export control programs of nuclear suppliers, with special attention to the increasingly difficult problem of so-called "dual use" items, and involving emerging suppliers in that effort.

Exploring the possibility of an international plutonium storage regime that could help contain the spread of sensitive technology and weapons usable materials.

Mr. Chairman, that concludes my formal statement. Thank you for your courtesy. I would be pleased to respond to questions. I know that Mr. Dunn would like to make a remark if the Chair would agree.

Chairman GLENN. If they could be very brief. We have taken about a half hour now for the statement and I would like to get on with the questions as rapidly as possible. If you could keep it to a couple of minutes, we would be glad to entertain your comments, Mr. Dunn.

Mr. DUNN. Thank you, Mr. Chairman. I will keep it even shorter than that. I have some remarks which I would like to introduce for the record, and would be prepared as the hearing proceeds to answer any questions. Thank you.

Chairman GLENN. Thank you. Mr. McGoldrick, do you have any comment?

Mr. MCGOLDRICK. No.

Chairman GLENN. Thank you all and let me get back to the issue of Pakistan, as a case in point here. I would like to review the assurances, both formal and informal, that the Pakistani government has given us with respect to their nuclear program. Have they pledged not to develop nuclear weapons?

Ambassador KENNEDY. The answer to that is, Senator, they have in the sense that they have stated repeatedly that the program is entirely for peaceful purposes.

Chairman GLENN. Have they stated very specifically, though, that they would not use it for the development of nuclear weapons?

Ambassador KENNEDY. They have said the entire program is devoted entirely to peaceful purposes.

Chairman GLENN. That is a little like India's program. A PNE blow up is called peaceful no matter where it goes off, under the ground for exploratory purposes or it could just as well be in the air, over somebody else's city, I guess.

Ambassador KENNEDY. That is correct, Senator, but I believe that—and I would want to check this—but I believe that President Zia, when confronted with our view that we do not distinguish between peaceful nuclear explosions and nuclear weapons, stated subsequently that, Pakistan does not distinguish between the two types of explosions.

Chairman GLENN. I agree with that. I met with Ambassador Zia a couple of years ago over there in Pakistan, along with Manir Kahn, Yaqub Kahn, the people involved with that program and we received some of those same assurances. But have they pledged not to test, not to go the explosive route, whether PNE or weapons?

Ambassador KENNEDY. I do not recall, however, but I believe—and I want to check—that, Pakistan has signed, although not brought into force, the special test ban treaty. Is that correct?

Mr. MCGOLDRICK. Limited test ban treaty.

Ambassador KENNEDY. The limited test ban treaty.

Chairman GLENN. Have they pledged not to reprocess?

Ambassador KENNEDY. They have not said they would not reprocess. However, they are not reprocessing because the plant which was built or was partially built for the purpose is not capable of doing so. They are aware that we consider reprocessing something which ought not to be undertaken and certainly, in no circumstance, should material be removed for the purpose of reprocessing.

Chairman GLENN. The limited test ban would not apply to underground testing, is that correct?

Ambassador KENNEDY. That is correct.

Chairman GLENN. So they could still do underground tests, if they wanted to, and still comply with the limited test ban?

Ambassador KENNEDY. Yes.

Chairman GLENN. Have they pledged not to enrich uranium over a specific level?

Ambassador KENNEDY. Senator, to discuss that subject would inevitably involve classified information. I would be happy to re-

spond, as you are well aware, in other circumstances or in classified hearing.

Chairman GLENN. Fine. I think there have been published reports—and I don't know whether it is necessary to really go into closed session on that particular issue—there have been published reports of their going well above the agreed upon levels of enrichment.

Six years ago, at the strong urging of the Administration, Congress provided over \$3 billion in military and economic assistance to Pakistan and one of the key purposes of this assistance was to alleviate Pakistan's security concerns so that nuclear weapons would not be necessary. Is there any evidence you can provide the committee that Pakistan has given up its pursuit of a nuclear weapons capability?

Ambassador KENNEDY. Senator, I think the record is clear publicly that we remained deeply concerned about Pakistan's nuclear program and its direction. It is also fair to say, however, that over those 6 years there has been restraint. There have been major efforts on our part to assure that that restraint occurs and we would like to see clearly a termination of any activities which might lead to the development of an explosive capability. We have made that absolutely clear to Pakistan.

Chairman GLENN. The President has to certify, before this next aid package can go, that Pakistan does not possess a nuclear explosive device and that our aid reduces the likelihood that they will. Now the President is required to certify that and he has done that twice in the past. Ambassador Hinton, in Islamabad, Pakistan, gave a speech a short time ago to the Institute of Strategic Studies. He commented that there are "Developments in Pakistan's nuclear program which we see as inconsistent with a purely peaceful program."

I will read some of this in a little more detail. He says "One must also consider the impact of a decision to acquire nuclear weapons on Pakistani relations with other nations, including the United States. Our ability, under U.S. law, to provide economic and security assistance to Pakistan remains dependent on Pakistani restraint in the nuclear area. In 1985, Congress legislated a new annual requirement that, for our assistance program to continue, the President must certify that Pakistan does not have a nuclear explosive device and that our aid substantially reduces the risk that it will obtain one. The President has twice so certified."

This was the rest of his statement. "For the future, I would note that it is open to question whether the President could so certify were he to conclude that Pakistan had in hand, but not assembled, all the needed components for a nuclear explosive device."

First, can you tell us what these developments in Pakistan's nuclear program are, that Ambassador Hinton referred to? And second, whether you feel the President can certify to the requirements now?

Ambassador KENNEDY. As to the first part of the question, I can no more than say that there has been continuing work in the Pakistan nuclear program, which has been of concern to the United States. In open session, I simply could not go further because it would involve classified information.

As to the second part of the question, the President has certified as it is required that he certify that Pakistan does not possess a nuclear explosive device, to the best of his judgment, based on information to the United States in each case of certification. One could conceive a wide range of hypotheticals but it would be unwise, and certainly not my role, to speculate at this juncture what his judgment would be at this time.

Next year, when the issue of certification is posed again, the President will have to review all of the pertinent facts at that time, as he has in each of the past 2 years. And I think that is exactly what Ambassador Hinton was saying. Ambassador Hinton's speech simply expressed, as I have I think in my own testimony this morning, our longstanding concern about the direction and certain aspects of the Pakistani nuclear program.

The statements that you have quoted out of his speech were meant to impress on the audience the deep seriousness of these concerns. It wasn't intended to constitute a legal brief about what the President might be required to do, vis-a-vis a certification.

Chairman GLENN. So the definition of possession of a nuclear device depends on whether you felt the components are there, ready to be assembled in a matter of hours or certainly days at the very most. If those components are available, do we then consider possession of a bomb to exist, even though it just isn't assembled, yet? Or could the President certify sort of tongue-in-cheek with the idea that it just hasn't been assembled yet? He might say "We don't know that one has been assembled. The last screw has not been put in place, which would let it be delivered."

If you felt that they had developed a bomb, but it just was not assembled, would you advise the President to still certify that they qualify for aid?

Ambassador KENNEDY. Senator, first let me say that I am confident that whatever the circumstances, that the President would not certify with tongue-in-cheek. It would be a straightforward certification based upon his view and his judgment of the facts as he saw them at the time.

Second, as I indicated earlier, I don't think that it would either be appropriate or even conceivably my role, at this juncture, to try to prepare a legal brief on a series of hypotheticals. We would have to see what the situation is at the time and judge those circumstances.

Chairman GLENN. Let me take it away from the Pakistani situation then and say in any nation around the world, where we are trying to prevent the spread of nuclear weapons, the development of nuclear weapons, and trying to use what leverage we have with regard to economic aid and military aid. Is it our policy that—not with regard to Pakistan, but in general—if we feel a nation has a weapons capability, they have developed it against our wishes and against our advice and against everything we have tried to do to leverage them out of that, is it our policy that we will then substantially cut off aid to that nation? That is a matter of policy, that doesn't apply to Pakistan particularly. It applies to everybody and should be a matter that has already been well decided within the Administration.

Ambassador KENNEDY. We, in such cases, Senator, are clearly governed by the law and the circumstances at the time.

Chairman GLENN. I am not sure what the answer is to my question. If you are governed by the law then, our intent of the law was certainly that as we see weapons being developed, that aid would be cut off. That was our intent. Is that the intent of the law that you are abiding by?

Ambassador KENNEDY. We act clearly in concert with our understanding of the law.

Chairman GLENN. Well, my time is well up. I may want to get back to that later here. I am over a couple of minutes, George, I am sorry.

Senator MITCHELL. Thank you, Mr. Chairman.

Mr. Ambassador, in commenting on South Africa and Israel in your remarks that you addressed to Senator Roth, you said there is no significant nuclear commerce, none whatever. Of course, those could be two different things. No significant nuclear commerce, none whatever. Is it none whatever?

Ambassador KENNEDY. In respect to South Africa, there is, at this point, I believe no nuclear commerce.

Senator MITCHELL. Period.

Ambassador KENNEDY. Period. That is my belief. That rests upon two facts. One, the fact that the Non-Proliferation Act would prevent us, and has for some considerable time, from having any significant—that is, any important—nuclear commerce, although there have been specific authorizations in law for minor safety related sorts of things.

Second, there has also been the anti-apartheid legislation and Executive Orders in this regard, thus I conclude, Mr. Mitchell, to the best of my knowledge, there is no commerce and there has been no commerce in respect to Israel, except as things which would be permitted under existing law, which would be very minor and could not be as significant.

Senator MITCHELL. I believe I misstated yesterday's witness, Mr. Spector, of the Carnegie Endowment for International Peace. Would you, at the earliest opportunity, review his testimony and submit to this committee a written statement as to any areas of his assessment with which the Administration disagrees? And if there is no disagreement, would you so state?

Ambassador KENNEDY. I would be pleased to do so, Mr. Mitchell. [The information referred to has been retained in the committee files.]

Senator MITCHELL. He presented a rather comprehensive assessment and I think it would be useful for the committee to know whether or not there is any disagreement on that testimony.

Ambassador KENNEDY. It may be required, Mr. Mitchell, for us to do that, at least in part, in a classified way to be able to present a fully accurate assessment.

Senator MITCHELL. Right, and if that is required, please do so.

Now, you described at some considerable length in your statement the efforts being made in persuading others—and really that is what we are engaged in here, persuasion—in the area of non-proliferation. Obviously, any effort to persuade involves the actions of the person or entities seeking to persuade. So I would like to ask

you to look at it from the standpoint of someone who you are trying to persuade who looks at this country and sees, under this Administration, the United States now engaged in a massive nuclear arms buildup.

The Administration refuses to terminate nuclear testing and, in effect, has reversed American policy of the past 30 years by not even being willing to discuss seriously a ban on nuclear testing, a policy which was initiated by President Eisenhower and has been pursued by every President until this one.

Sees that the Department of Energy, under this Administration, is dramatically shifting away from energy research and development to nuclear arms activity.

Sees that the Administration's policy is to promote increased commercial nuclear power and sees that the Administration policy is not to inhibit the growth of reprocessing and breeder reactor development.

In light of those policies and activities, it seems to me difficult to persuade others to take seriously our efforts in non-proliferation. What is your reaction to that, Mr. Ambassador?

Ambassador KENNEDY. Senator, perhaps we could begin by separating—and I realize there is some relation between them—but separating the vertical and the horizontal proliferation problem slightly. With that, let us go to the horizontal side, which is what we are trying to do in the non-proliferation effort.

You mentioned the Administration's efforts and interest in expanding nuclear power development. That is correct. It has been the Administration's policy that nuclear power is and will continue to be, and indeed should be, an important part of the energy mix of this country.

It is also recognized by the Administration that in this country and there are something over—I used to know these figures by heart when I was more intimately involved in that side of the business—there are something over 100 operating power reactors in this country, producing a great many kigowatts of electric power at a time when indeed, electric power generation needs are again increasing as the economy begins to expand.

Second, the Administration notes that abroad, many countries have no reasonable alternatives to nuclear power. That is the way those countries see their situation. Take, for example, France and Japan, two countries in which nuclear power development is extensive, and yet if one looks at their other generation capabilities, there really aren't any that exist. These countries do not have much other choice.

Someone put it once, I think it was Lord Marshall, when someone asked him why is it that the French are so committed to nuclear power? He said well, they do not have any oil and they do not have any coal and they do not have any gas and therefore, they do not have any choice. That is the way they see their situation. That is the course they must take, because if economic development and just even ordinary economic well-being is to be assured for their populations, energy development must proceed and there is not any other way to do it at this point.

I should go back to the nuclear power question to explain further. I am not here to sell nuclear power. That is not my business.

But it is a fact that nuclear power also is seen, in many cases abroad as well as here, as an energy source which does not offend the atmosphere as much as some others. Moreover, at this point, given the fact that there is substantial uranium resource available, is a source of power which can be made available for a very long time as well.

Now, as to the question of breeder reactor and reprocessing. When I said that we do not inhibit others, I did not mean to suggest that we ourselves undertook this procedure. We did not. The policy of the United States is, and remains, so far as I know—and I will ask the Department of Energy to confirm that this is the case—that we are not pursuing either reprocessing or the breeder reactor. We certainly do not pursue it at this time, as a matter of policy. It does not go to say that we would rule the possibility out for all time, as I understand the situation. Certainly now it is not seen as an economic route to developing energy resources at this point. So breeder reactors and reprocessing are not being pursued.

In respect to other countries, particularly those with advanced programs, where there is no proliferation risk and where these activities are seen as important to their long term energy security needs, we are not going to stand in the way. We are not going to stop them, since there would be—perhaps in their view—no alternative. And in any case, we would be unsuccessful. Rather, our effort has been to involve ourselves in that program in some way, in order that our own ability to influence it, control it, and assure the safeguards and safety of such programs are increased. That is what we are trying to do.

Now, on the other side of the question, I think it is not necessarily correct to assume, as is often done, that because the nuclear weapon states are not reducing their nuclear weapon stockpiles, it will necessarily be the route to drive others into proliferation. I do not think that is the case, at all. I also do not think there is evidence that that is the case. I think both programs can be pursued—one, arms controls efforts, which we are making, and two, non-proliferation efforts, which we are making independently.

Senator MITCHELL. Well, I do not get time for another question because it took the whole time, but I will just say that I strongly disagree with you and I hope very much that you are saying we are pursuing the two, that we are doing better in non-proliferation than we are doing in arms control because we are sure not doing very well there. That is another subject. That is not a subject for here.

Thank you very much. I have a number of other questions, Mr. Chairman, that I would like to submit in writing.

Chairman GLENN. Yes, and we would appreciate a response so that it can be included in the record.

[The questions and responses have been retained in the committee files.]

Senator Sasser.

Senator SASSER. Thank you, Mr. Chairman.

Mr. Ambassador, I was troubled yesterday by Mr. Spector's presentation before this committee concerning the spread of nuclear weapons and associated technology. Now given his information, regarding the potential spread of nuclear weapons, what is the Administration's position on the conversion of civilian or research reactions to military use and what steps are being taken to prevent

this sort of conversion, that is conversion of civilian reactors to military use? What is our policy in that regard?

Ambassador KENNEDY. Senator, our policy is to prevent and prohibit the spread of nuclear weapons. That is precisely the purpose of the Non-Proliferation Treaty and it is precisely the purpose of all of the safeguards agreements, which we have with other countries.

The conversion of a power reactor to a production reactor is no small trick. In fact, the material produced by a power reactor is not—if one is going to proliferate and try to turn into a weapons program—the way to go. Now, I am not suggesting it would not be possible, of course it is. It is just a very uneconomic way to do it, is what I am saying. If you are trying to build bombs, you do not build them with power reactors.

However, it can be done and because it can be done, we seek adherence to the NPT which forswears any such diversion. The safeguards program that is associated with the NPT requires inspection to assure that diversion of materials from those reactors is not taking place into the bomb business, and that is our policy.

Senator SASSER. Well, Mr. Ambassador, I understood that to be our policy and in light of that, why are we considering ourselves converting a civilian power reactor in Washington state to make tritium for hydrogen bombs for the Department of Energy? I understand we are considering that. I am bothered by this, particularly since this reactor was paid for by citizens for use as a commercial facility and because it looks like a classic case of the United States saying to the world, "do as I say and not as I do."

What signal are we sending foreign countries with that, if we go forward with plans to convert this reactor to make tritium?

Ambassador KENNEDY. May I respectfully request, Mr. Sasser, that I ask the Secretary of Energy to comment on that question and I will do so in writing? ¹

Senator SASSER. Well, do you not have any comment on that question, Mr. Ambassador? I think we could ask you, sir, if you are not responsible for policy—and I would not think you are—my question to you would be what signal are we sending to foreign countries with this plan to convert this civilian reactor to military use? I think that would fall within your jurisdiction to make a comment on that.

Ambassador KENNEDY. If I understand the situation correctly, Senator, that question has been examined. I do not know the extent to which the examination has gone. However, it is a fact that that reactor was never brought into service and therefore would never have been a civilian operating reactor. It was a machine which was in process of construction, but was never completed, so far as I know.

Thus, in effect, it would be taking a partially built machine and remodifying it for some other purpose. Thus, it is not a question of converting a civilian power reactor to another purpose.

¹ See p. 160.

Let me, if I may, ask a representative of the Department of Energy, which is involved directly in this matter to comment? Peter, would you comment?

Mr. Peter Brush, of the Department of Energy.

Chairman GLENN. You are welcome.

Mr. BRUSH. Thank you, Mr. Chairman. Although the committee did not formally invite the Department of Energy to present a witness today, I am pleased to be here to answer any questions.

Chairman GLENN. You are no less welcome because you didn't get a piece of paper.

Mr. BRUSH. I might just say we did participate fully in preparation for this hearing today.

Chairman GLENN. So everyone is aware, the press and everyone else here today, would you identify your position in DOE and what your responsibilities are?

Mr. BRUSH. Certainly. My name is Peter Brush. I am the Director of the Office of Non-Proliferation Policy at the Energy Department.

As I said, our department did participate in preparations for this hearing today and we fully support the prepared statement that Ambassador Kennedy has given here.

Your question, Senator Sasser, concerned what DOE is doing in considering the possible use of the Washington Public Power Supply Unit Number 1 for a possible production reactor use in the state of Washington. You have correctly stated that this is under consideration in the Department of Energy. I would emphasize here that no decision has been made. It is one of a number of options that have been looked at. Briefings have been given, as I understand it, to the relevant delegations from the area and we are continuing to study this, but no decision has been made.

Senator SASSER. Well, I would ask you most respectfully why in the world are you even considering it? In other words, you are getting yourself in the posture here of considering converting a civilian reactor to military use. Now, it appears to me that is contrary to the policy of the United States. And it appears to me that it works directly against our interest internationally in trying to encourage nuclear non-proliferation.

What in the world are you going to say to other countries, that we transfer nuclear technology to. They start out using it in a peaceful way, commercially, and then turn around and convert it to military use? We have seen that occur in the country of India. And here we stand, we can not even come into the court of world opinion with clean hands if we are considering this kind of policy.

I think, Mr. Chairman, it is just ridiculous. The question is why are we even considering it?

Mr. BRUSH. I can give the answer, Senator, that one of the responsibilities of the Department of Energy is to assess and continually update our plans for the replacement of existing production facilities that are essential to the country's national security. That is the activity that is underway now.

Senator SASSER. That is precisely the argument that could be made by India. It could be made by Pakistan. It could be made by Iran. Every country is concerned about their national security and updating their technical capability to protect their national security.

ty as they view the threat. That is precisely the argument that could be used against us.

Mr. BRUSH. I can only say, Senator, that that is part of our responsibilities. We are considering it and no decision has been made.

Senator SASSER. Well, I hope, sir, that you will transmit to the Secretary of Energy at least one Senator's very strong concerns about the fact that this is even being considered in the Department of Energy, and I think that runs directly contrary to the policy of the United States of America, as I understand it, to discourage the conversion of commercial nuclear facilities to the production of military weapons or conversion for military use.

Mr. Ambassador, let me direct another question to you and perhaps our friend from the Department of Energy may want to elaborate on this. Privatization of the uranium enrichment process is being undertaken by a corporation in my State of Tennessee and I understand also in the Chairman's State of Ohio.

Once this technology is developed and in the hands of private industry, what steps are being taken to prevent its transfer? I am concerned about the transfer of this enriched uranium manufactured by private sources to foreign countries.

Ambassador KENNEDY. Senator, I can comment briefly and I would like Mr. Brush to comment further. Any such technology transfer would include all of the restrictions and limitations required by the Non-Proliferation Act and the Atomic Energy Act. Such a transfer would be thoroughly controlled and, in no case, if I understand the circumstances of the Atomic Energy Act, would privatization occur in excess of 49 percent of the ownership. I think that is correct.

In any case, all of the limits of law would apply to the technology and to the product. The product would be subject, such as enriched uranium, to the rules of safeguards. Any transfer of the material would be subject to all safeguards.

Mr. BRUSH. I would be pleased to comment.

Senator, you are correct, we are considering possibilities for future operation of the uranium enrichment enterprise. Over the last year, the Energy Department has been evaluating a number of options for restructuring the enrichment enterprise. They have included such things as selling the assets, leasing them, forming a government corporation, or indeed keeping the current situation as it is.

Just last week, the Assistant Secretary for Nuclear Energy sent a comprehensive report on the subject to the House Subcommittee on Energy and Water Development, indicating that we would be making no decisions at this time but would be making specific recommendations on this subject at the end of March.

Senator SASSER. Well, I will look forward to receiving those recommendations and will review them with great interest. I serve on the Energy and Water Resources Subcommittee here in the Senate and I assume we will get a copy of those recommendations.

Mr. Ambassador, not too long ago the Chairman and I, in company with Senator Nunn, journeyed to Pakistan and there had conversations with the Pakistani leaders, our friends, relative to the development of a nuclear capability for that country.

I will ask you, have the Pakistani leaders pledged not to develop nuclear weapons? Is that your understanding?

Ambassador KENNEDY. As I commented earlier, Senator, the Pakistani leaders have stated repeatedly that their program is for purely peaceful purposes. As Senator Glenn noted, there are peaceful nuclear explosions. I add that to my recollection and my understanding, President Zia, when presented with our view—that is that we do not differentiate between peaceful and non-peaceful explosions—said neither did Pakistan, that Pakistan recognized any explosion to be non-peaceful.

So, in effect, they are saying that their program is totally a peaceful program that would exclude any explosion.

Senator SASSER. Have they pledged not to test nuclear weapons? Is that your understanding?

Ambassador KENNEDY. Pakistan has, in fact, signed but not ratified, nor brought into force, the limited test ban treaty. They have not, so far as I know, gone beyond that although they have—I mentioned in my testimony earlier—they have stated that they would be prepared to bring that treaty into force. They would pledge no testing if India would undertake the same sort of agreement.

Senator SASSER. Are you aware that there is some evidence that they have constructed an underground nuclear test facility?

Ambassador KENNEDY. I have heard rumors to that effect and reports to that effect. To go any farther, Senator Sasser, to give any meaningful answer would require going into classified information. I would be pleased to do that at another time, under other circumstances.

Senator SASSER. Have the Pakistanis pledged not to continue illegal purchases of nuclear equipment or technology from the United States?

Ambassador KENNEDY. Yes, sir, they have indicated that this is something which they understand is against the law and we have brought to their attention the law and its proscription.

Senator SASSER. Well, Mr. Ambassador, has any penalty been levied by the United States government or have our bilateral relationships been adversely affected due to the Pakistani Government's failure to abide by some of their solemn assurances on the status of their nuclear program?

Ambassador KENNEDY. Senator, to the extent that any solemn assurances may have not been fully carried out, to the extent that this is true, the Pakistanis are fully aware of the depth of our concern. This was brought home to them forcefully and at the highest levels on a regular basis.

Senator SASSER. But there has been no repercussions other than conversations with representatives of our government, in which we express our disapproval?

Ambassador KENNEDY. If you are speaking of specific actions taken against them, punitively or some way, the answer is not to my knowledge.

Senator SASSER. Well, I didn't think so, Mr. Ambassador. What message are we sending to other countries with our failure, really, to act in some punitive way against the Pakistanis for their failure to live up to some of these assurances with regard to the development of nuclear capability?

Ambassador KENNEDY. Well, Senator, without—

Senator SASSER. Accepting the premise of my question?

Ambassador KENNEDY. Yes, without granting that premise, let me just say that as a general proposition the fact of our disapproval and the knowledge that there are clear limits which law and policy have established is well known abroad and our intention to adhere to that law and policy is also well known and clearly understood.

Moreover, as I mentioned earlier, we would clearly prefer that the clock be turned back, but it has not happened. We understand that. Nevertheless, their program has moved forward a great deal more slowly, in our view, than might otherwise have been the case had we not had the kind of a relationship which we have had with Pakistan through our aid program over the past several years.

We believe that it has, in fact, inhibited their program. That, together with our strong pressure on them has inhibited the program and it has moved forward a good deal more slowly and certainly not to the conclusions which might have been possible some time ago.

Senator SASSER. Now that is very possible, Mr. Ambassador, that our aid program and other contacts with the Pakistanis may have inhibited their advance, slowed their progress. I am prepared to not disagree with you on that point, but do we have any concrete, hard evidence that that is the case, or is this just purely supposition on our part?

Ambassador KENNEDY. Senator, I think the calendar speaks for itself. I think if one looks at what some years ago one might have assessed as possible and then see where they have gone, what they are now capable of doing, what they have done, I think one concludes that something moved that program more slowly than what otherwise might have been the case.

Let me just add that this is a result of our aid program, its own leverage effect, our own political and diplomatic efforts, and the major efforts which continue to assure that the acquisition of hard to come by materials and equipment for such a program was interdicted as much as possible.

This was done all over the world and I can assure you that by and large—well, I would say better than by and large—we have had very, very substantial support although in many cases it took some hard explaining. When we were able to explain we have received considerable support around the world for that interdiction effort. For all those reasons, the program which has been followed, continues. And the Pakistanis know it full well, that that is exactly what we are doing.

Let me point out, for example, that repeatedly Pakistan has asked first that we try to be of some help in helping them build a new power reactor, which they need for their own power generation purposes, which they would safeguard immediately, and put it under IAEA safeguards. And we said absolutely not, unless you are willing to undertake full scope safeguards.

We then went to everyone else who might have been involved, to present the same sort of view. I will not go into precisely with whom we had these discussions, but many. The Pakistanis are

aware of this. We encouraged people to look at the situation in the same light.

That reactor has not been built and we are confident that it will not be unless the Pakistanis are prepared to undertake these kinds of steps. They have come to us now and said look, we know you can not do it, you will not do it, but do not tell others not to assist. And we say no, we will tell others not to assist. We will reverse that, however, if you will take the right course. We will encourage others to help you and we will help you ourselves, but only if you take the right course.

Senator SASSER. Mr. Ambassador, a distinguished foreign service officer, the U.S. Ambassador to Pakistan gave a speech in Pakistan this month in which he gave official notice to "Developments in Pakistan's nuclear program which we see" that is, the United States "sees as inconsistent with a purely peaceful program."

What are the developments to which our distinguished ambassador was referring and what do they say about the effectiveness of our aid alleviating the perceived need the Pakistanis seem to have for a nuclear device.

Ambassador KENNEDY. Senator, as to the specific matters, again I respectfully note that a meaningful answer to that question would require me to get into materials that I simply can not discuss in open session. I would be prepared to, in a restricted session or in other circumstances.

As to the comment itself, and the view he has expressed, as I indicated earlier, the entire speech expressed what my own testimony has expressed, a long standing and deep concern about the direction and certain aspects of the Pakistani nuclear program. The purpose of that speech was simply to impress on the audience, and a very broad audience indeed about the seriousness with which the United States views the situation and the concerns which it has. It has gotten a lot of attention in that part of the world and elsewhere.

It was not, however, as I indicated earlier, intended as a legal brief on where we go from here.

Senator SASSER. Thank you, Mr. Ambassador. Thank you, Mr. Chairman.

Chairman GLENN. Thank you, Senator Sasser.

Following up on Senator Roth's comments about South Africa, just a comment on that and then your response to it briefly, because I do want to get into another area here before we end the hearing.

It has been my impression that we did not do anything, as far as I know, to try and stop the sale of nuclear fuel that France arranged from a Swiss company to South Africa. Our record on dual use equipment, and that is a debateable one I know, but dual use equipment we have gone ahead and sent. I think some of our U.S. nuclear technology has gone to South Africa recently. South African uranium, contracting for it to be sent to us for processing, that was prevented by Congress.

I would think all those together are significant. You said you knew of no significant dealings with South Africa. That seems to me, in total, to be rather significant.

Ambassador KENNEDY. I am talking about significant in the context of the Non-Proliferation Act, Senator, what would or would not be allowed in those circumstances.

Chairman GLENN. I was not talking specifically about that act. I am talking about our overall policy with regard to South Africa and what we do with them nuke-wise.

Ambassador KENNEDY. As far as I know right now, there is no nuclear commerce or trade with South Africa. There may be permitted, under Treasury regulations, some indirect movement of enriched material. Maybe you can comment on that, Peter?

I can tell you only that the contractual arrangements that existed, for example, with South Africa which involved enrichment services a long time back were terminated. As to dual use items, they are all very carefully examined through the entire process of reviewing these questions and we have made it clear as a matter of policy that we would not undertake nuclear cooperation unless South Africa became a party to the NPT and placed all its activities under safeguards as required by the NPT.

An Executive Order on September 9, 1985 and extended again in September 1986, further restricted any nuclear cooperation, prohibiting the issuance of any license of exports to nuclear facilities and any retransfers of nuclear material, components or technology to South Africa. So those are things already in place.

The Anti-Apartheid Act, which I mentioned earlier contains still further restrictions. So I can not believe that anything of any consequence is taking place.

I would add, however, that the Anti-Apartheid Act does provide the opportunity for the resuming of nuclear cooperation if South Africa joined the NPT or otherwise accepted the comprehensive safeguards.

Chairman GLENN. One other thing in passing. This idea of testing being necessary. I think many of our experts are beginning to get beyond the point where they feel testing is necessary. We can do sufficiently sophisticated computer studies and so on now, that while a nuclear device might not be tweaked for maximum efficiency or maximum bang out of the fissile material, it still would be a very credible weapon and could be in a delivery system and never have been tested.

We need only go back to our own experience that our weapon had not been tested when dropped on Japan back during World War II days also. So I do not know that we are at a point where we can rely on testing as an indication of what a country might or might not do.

That is just a comment. I want to get over into another area here. We have been increasingly concerned that, as this spread of nuclear weaponry and technology around the world continues, it does get into a problem for our military and for our national security. We even passed a requirement last year that DOD be cut in on all non-proliferation information. They felt they needed it to do this job.

So far, let me just list a number of things here as to why we, at this end of the Avenue—and let me say this is bipartisan concern. This is not Democratic criticism of a Republican administration. I was equally pushy on the Carter administration, as you may recall,

highly critical of them in some respects. And so were The Republicans and Democrats on this committee equally concerned.

I think the statements I am making this morning, I am sorry we do not have a full line up of Republicans here. I think almost all of them would back up these concerns in spades and we are concerned that the Administration has not pushed forward more actively in these areas. In fact, it is our view at this end of the Avenue, Mr. Ambassador, that it has gone the other direction, that there has been a down playing of concerns here.

Let me just read through these things, so you will know what I am thinking about. State and DOE's failure to supply DOD with the non-proliferation information and to include them in interagency policy discussions. Another one, lack of formal non-proliferation taskings for the JCS. A third one, lack of personnel working on nuclear capable delivery systems. I will not go into details on that, perhaps we may be getting over into classified area there. But the numbers of people in the agencies that normally would be looking into that is minimal, if my information is correct. Not minimal, it is almost non-existent.

Another one, DOE Defense Programs Office is cutting its non-proliferation staff and budget. DOE has recently cut funding for its nuclear non-proliferation advanced course, as it is called, which is the only formal non-proliferation training program that is offered to the intelligence and policy communities.

DIA, that was fairly active in some of these areas, is only a passive player, without strong policy guidance and support—and these are the areas of military concerns that we think are playing an increasing role in our national security.

Another one, the state PM, Political and Military Affairs, which under Carter and Ford I think played perhaps a much larger role than they are playing now. In my impression, they have become virtually a non-player in this area. Another one, I do not know how many people your office has with background in the military dimensions of non-proliferation and national security matters.

NSC, as I see it, has failed. Maybe they have been so concerned with other things recently, but NSC has failed to provide policy coordination and guidance on national security dimensions on non-proliferation issues.

You can take any one of these things and explain it away, but cumulatively, to us, it shows a real weakness in this non-proliferation policy at a time when the military and security concerns of the country are increasing due to the ineffectiveness of non-proliferation—and we always thought it was a finger in the dike type operation for all of us involved with NNPA and this whole problem anyway because technology is going to spread. But at a time when it seems to us that we should be putting more emphasis into this area we see, over that general pattern of things that I read, less emphasis on this.

Where are we going with this? Is DOE really going to get into this thing? Is DOD going to get in? That one concerns me, when they have been—let me just go right ahead with this. We got a letter that was sent over to Congress in September of last year about the carrying out of the direction that we had put in under the Defense Authorization Act. It was copied to me and to Sam

Nunn and it was addressed to Senator Goldwater, who was chairman of Armed Services at that time.

It said that I understand the State Department has sent a letter to Congress setting forth its views on a provision in the Senate version of the Defense Authorization Act of 1987 concerning non-proliferation information. It is important that you understand that the views expressed in that letter do not represent a coordinated Administration position and that the Department of Defense disagrees with State on this matter. Nuclear proliferation is intrinsically a national security problem and the Atomic Energy Act assigns specific functions in this area to the Secretary of Defense. It seems to me self-evident that full information sharing is not only eminently reasonable but essential to the most effective fulfillment of DOD's non-proliferation responsibilities. Signed: Assistant Secretary of Defense, Richard Perle.

What is your comment on that, because we were so concerned about this last year that we put a requirement in law that this information would be made available to them. The President then comments back that he considers that advisory only. He claims that we are getting over into his constitutional areas, in telling him how to run the Executive Branch of government, yet we do that all the time. We tell him how much money he is going to spend as representatives of the people of the United States. We pass laws all the time that tell the President what to do, and he is supposed to execute them.

Why has this information not been made available to DOD?

Ambassador KENNEDY. Senator, let me just say that it has been a long time since I have been in the government when I have heard such poppycock put out by serious people in the government which has come to you.

Let me just, if I may, make a few very positive statements. First of all, this Administration has worked harder on this subject than any previous administration in my time in this government.

Second, we make certain that everybody who has a role to play plays it and plays it to the hilt. Department of Defense has been cut out of nothing of which I am aware. I should say to you, Senator, in terms of information sharing, I never heard of this letter before but that is only one of many.

I have heard about this information sharing but information sharing is none of my business, responsibility or is it my authority to distribute cables. That is not my business. But yesterday, I just decided to find out what this was all about. Let me just read you the results. On Tuesday, February 24, my staff, and I ought to possibly ask the Department of Defense for some reimbursement for the expenditure of time and effort on this subject, my staff reviewed all telegrams of interest which were provided to my office on non-proliferation and nuclear energy matters for the full 3 day period February 21 to 24. The total traffic delivered to my office on these issues for that period, both incoming and outgoing, totaled 54 telegrams. 40 of these cables, including three exdis were received by the Department of Defense electronically. That is 40 out of 54 were received by the Department of Defense electronically.

An additional seven were originated in the intelligence community and were sent to DIA. You mentioned DIA is not a player. They are in the Department of Defense. I cannot control that.

Only 7 of the 54 telegrams of interest received by my office over that 3 day period were not copied electronically to the Department of Defense. Of these seven, however, four were copied to CIA and NSA, a part of the Department of Defense and presumably would be factored into any intelligence analyses prepared by the community available to the Department of Defense. I presume they provide them to the Department of Defense, we do not.

The remaining cables dealt with a request for a cost free expert on health effects, specialists meeting on design concepts for a fusion engineering test reactor, and information on spent fuel storage. These were copied to NRC and the Department of Energy as appropriate, since it would be their business.

In short, Mr. Chairman, the vast majority of this traffic, so far as we know, is in fact being provided and will be provided.

Now, as to personnel, Mr. Chairman, there are a total of approximately 174 man-years and \$22.5 million of direct budgetary expenses being devoted to this subject in this Administration at this time.

Let me go back to the question of distribution of information. Decisions on the distribution of cable traffic are made by the Department's office of communications, by the operation center, and on other matters, by the Executive Secretary of the Department of State. They are not made by my office. They are not made by the Office of the Assistant Secretary for Oceans, Environment and Science, no matter what your staff may have been informed, Mr. Chairman.

Indeed, I am informed that the State Department's Executive Secretary may already have replied to a most recent request from the Department of Defense, noting that the Department of State of course desires to share all appropriate information relating to DOD's statutory responsibilities. And as I indicated in my testimony, the procedures being followed are the procedures which have been in existence for the past 20 years and continue in existence, to assure that every department of this government which has a role to play, plays it.

Mr. Chairman, there is a great deal of time spent on this and a great deal of misinformation. I hope that I have, at least in some measure, made the record clear. One of the problems is that there are some people who do not have enough to do. We would love to see them have worthwhile work to do, rather than perhaps playing with preparing fact sheets on their desks or throwing darts at dart boards in their offices.

Chairman GLENN. Well, I am not for supplying dart boards to anybody either, as far as that goes, but I am concerned enough to get to the bottom of this.

Let me ask one other thing, or a couple of other things here. You chair the Senior Interagency Group meetings on non-proliferation issues. How often do you have meetings?

Ambassador KENNEDY. The Senior Interdepartmental Group has not met for some time. There has not been an issue which needed

to come before it. The last time in which there was a direct concern was involving the China agreement.

Chairman GLENN. Well, how often through the years, since you came into your position in 1982? How many times has that group met, the SIG group?

Ambassador KENNEDY. Early the group met, I think, two or three times as we tried to get the policy in place, get the organization settled and steps arranged. There are, from time to time, meetings of a lower level group, the interdepartmental group which for the most part is chaired by the Assistant Secretary for Oceans, Environment and Science. There are regular meetings.

I must say I used to have some myself, interdepartmental meetings just in a sense of interdepartmental staff meetings. However, I tried to keep these meetings at reasonably senior levels and found that some departments were unable to send people even at the Deputy Assistant Secretary level, so I concluded the lack of interest suggested that there was no need to continue those meetings so we keep them at a lower level.

Chairman GLENN. When you had these meetings, who normally attended those meetings? Who was invited?

Ambassador KENNEDY. Each department, all at Deputy Assistant Secretary levels. However, as I indicate, certain departments concluded apparently that they couldn't afford to continue that and therefore we thought, since the interest level was lower, we would have the meetings at lower levels.

Chairman GLENN. Was Defense invited to those meetings?

Ambassador KENNEDY. Always.

Chairman GLENN. Why did they not attend? It was my information they had not attended a single meeting. You are saying they were invited and did not attend?

Ambassador KENNEDY. That is not correct, Mr. Chairman. This is just another piece of the misinformation which I am terribly sorry seems to come to you.

The fact is that for some considerable time we had meetings but, as I indicated, we started those meetings to have at least Senior Deputy Assistant Secretaries, indeed in our own department Assistant Secretaries themselves came. The bureaus would send Deputy Assistant Secretaries. But unfortunately, as I indicated, some departments found that they couldn't do that and so we thought that the level of interest being lower, we could have the meetings conducted at a lower level, which is exactly what has been occurring for some considerable period of time.

There are meetings and they are regularly conducted.

Chairman GLENN. Correct me again if this information is wrong but when we passed legislation last year, the DOD authorization bill that was passed unanimously here on August 7, to add DOD to the list of agencies required to keep Congress informed on nuclear proliferation and two, to provide that upon request the Secretary of Defense shall have access to all information regarding nuclear proliferation matters that the Secretary of State or the Secretary of Energy has or is entitled to have, including all communication materials, documents, and records relating to such matters, including cables from the United States diplomatic mission.

This reflected, as I said, not an effort just to make sure somebody had more paper coming across their desk but because we have had a great concern here about the spread of nuclear weapons. As we see nuclear weaponry potentially spreading around the world, it has a greater national security risk and consequently a security interest by us and that DOD is going to be a major player in that. This is no longer just a couple of points around the world, it is many, as you are well aware.

The State Department wrote Representative Broomfield then, opposing the amendment. The letter said we believe we have, in fact, made every reasonable effort to ensure that DOD does, in fact, have such information on a timely basis. The information we had was that over the past four years—this was from last fall or last summer—over the past four years, the State Department has increasingly shifted diplomatic cables on nuclear non-proliferation—this is not from our sources here. This is from other sources in the Administration.

For the past 4 years, the State Department has increasingly shifted diplomatic channels on nuclear non-proliferation out of the normal channels available to all agencies with a need to know and into special channels such as STADIS, State Department Dissemination only, and NODIS, no dissemination without the approval of Ambassador at Large Kennedy.

And out of about 1,000 NODIS and STADIS cables on nuclear proliferation during this period, DOD has received approximately two percent. At the same time, the State Department has virtually eliminated DOD clearances of outgoing non-proliferation cables, except on export control cases where the law specifically requires DOD participation and has reduced the number of interagency meetings on non-proliferation to which DOD is invited from four per week to one every two weeks.

Are those figures in error?

Ambassador KENNEDY. May we start with the first one? Senator, as I indicated before, I am dismayed that you, a man for whom I think all of us have the highest regard and respect, could be fed such information by the staff.

Chairman GLENN. I am being fed it from high officials in the administration of Ronald Reagan.

Ambassador KENNEDY. Let me just say that that only indicates a serious deficiency which ought to be corrected.

Chairman GLENN. I do not have a big staff out there verifying these when charges are made like this by a high Administration official. It seems to me it is incumbent on me, if I have any integrity left, to bring it up and make sure it comes out and you can reply to it. And if the reply is not sufficient, then we certainly are capable of taking action legislatively here to correct it, which is one of the things we tried to do last year.

But the President says that that is advisory only, which is—you talk about poppycock.

Ambassador KENNEDY. Senator, you are exactly correct about your responsibilities which I personally, as you know, not only defend but support in every possible way. But let me just say that simple ordinary fairness would suggest that if allegations are being made, that before they are used to legislate, staff ought to inquire and find out the facts in order that you could be provided with real information rather than innuendo and allegation.

The first time I became aware of the material which you were reading from today was yesterday morning in my office. I should

have been aware of it because, of course, its existence was reported by the New York Times, a reputable newspaper, I know, on December 24, 1986. But no one, no one from this end of the Avenue or anywhere else provided that information to the Department of State.

Chairman GLENN. Which indicates to me the need for better flow of information back and forth between DOD and State in both directions.

Ambassador KENNEDY. And perhaps between the staff of the committee and those of us who are attempting to serve it and to work with it.

Chairman GLENN. Well, no, I will not go along with criticism of the staff here. We do not put out any detailed question list of everything we are going to talk about. We are not supposed to. You are the people setting the policy and we can ask anything we want to ask about policy, and that is what I have been doing this morning here, obviously. And where there are things that come up like this, that are in the public domain, and have been published in the New York Times, it is incumbent upon me to ask the questions and give you an opportunity, which you are doing, to defend your record, the Administration's record.

Obviously, there are some things that need to be ironed out between the branches and the Administration. If I can help do that, that is what I am doing this morning. I am expressing, as I said three or four times this morning, the concern up here on the Hill that the spread of nuclear weaponry and the potential of it around the world creates a danger beyond just what we have dealt with in the Nuclear Non-Proliferation Act. This now goes over into the matter of national security, what the Defense Department needs to know, whether they are kept informed or not, whether they can make proper plans for purchase of equipment, deployment of forces in areas that might be affected by this, there are just a hundred things that they need to know about and I hope that that flow of information is adequate to let them do their job.

I will not go ahead and read all of the rest of this, but one of the other statements here is DOD is operating increasingly in the blind with respect to nuclear proliferation matters affecting U.S. military forces. DOD has been unable to see diplomatic information directly involving the deployment of U.S. forces, potential nuclear threats to U.S. forces and critical military alliance relationships.

In some cases of State Department non-proliferation diplomacy affecting U.S. forces, DOD learned of the discussions only indirectly from intelligence on the activities of foreign governments.

Ambassador KENNEDY. Senator, may I ask—

Chairman GLENN. I did not invent the statement. That is it there. I am glad to have your comments, whatever they are.

Ambassador KENNEDY. Senator, these statements I find to be incredible. I find no evidence which supports them. I would be delighted to see that evidence and correct the situation were it, in fact, existing.

Chairman GLENN. Well, were the figures I read off a while ago, about the percentages and so on, were they correct or do you say they are not correct?

Ambassador KENNEDY. Which percentages?

Chairman GLENN. Over a 4 year period of about 1,000 NODIS and STADIS cables on nuclear proliferation, that was prior to last August, DOD had received only approximately 2 percent of them?

Ambassador KENNEDY. I have absolutely no idea whether that is a reasonable percentage or not. It sounds to me like an extraordinarily low one. And moreover, the 1,000 sounds to me, like a very extremely high one pertaining to this area. There was another point which refers to NODIS cables, which I think you read, which had——

Chairman GLENN. I agree that the 2 percent was low, but I thought the other probably was also low, because you indicated a minute ago 24 telegrams over a 3 day period or something like that.

Ambassador KENNEDY. Fifty-four, Senator.

Chairman GLENN. So if we had 1,000 over a 4 year period prior to last August, it would not surprise me. I would think maybe that was low, too.

Ambassador KENNEDY. My 54 cables included all level of cable. The 1,000 were EXDIS NODIS I think you said.

Chairman GLENN. I stand corrected, you are right.

Ambassador KENNEDY. I find that extraordinary.

In any case, Senator, I explained to you how the process works. I took a sample and I cannot tell you whether that was the case. And I reiterate, it is not my office's responsibility or authority—and the Executive Secretary of the Department has instructed me to say precisely that—that it is neither my authority or responsibility and it has not been.

Chairman GLENN. Let me tell you why I gave a little bit more credibility to this, perhaps, than you indicated I should have. I am not saying whether that is true or not. But when the President comes back to us with something where we have seen a need and passed a law, and the President comes back and says I will consider that only if I want to, I am concerned. I do not know who so advised him. I do not know whether you were involved with that advisory opinion or not. I hope not, because we mentioned the word poppycock a while ago. I think that is poppycock, too.

We pass laws all the time that tells the Executive Branch of government what to do to address certain needs of the country, whether it is welfare, defense, intelligence or nuclear non-proliferation or whatever. That is our business here, representing the people of the country.

But it came back and the President's statement on it was that it was advisory only which indicates no, I am not going to do it. That is the only reason it could be advisory, to me, is because he is, in effect, saying forget it, we are not going to do it.

Ambassador KENNEDY. No, Senator, that is not true.

Chairman GLENN. And that is that.

Ambassador KENNEDY. Senator, if I may, respectfully, that is not correct. That is not what the President said or intended.

Chairman GLENN. Correct me, then.

Ambassador KENNEDY. First of all, I had nothing to do with a decision of that kind. That decision is one for the advisors to the President concerning his constitutional responsibilities and prerogatives, in other words, the Department of Justice. The Attorney

General advises the President of those matters and the President, presumably, acts upon the advice he gets.

The Attorney General, I am confident in this case—well, I know the Attorney General indicated to him that there were serious constitutional questions which the legislation raised. Instead of challenging that, the President said simply I cannot accept—I think what his statement says is I cannot accept this as a mandate, however I will consider it advisory.

Now following that, indeed, it is my understanding that the National Security Council staff undertook to suggest that a meeting be brought together under its auspices for the purpose of discussing these matters and one of the departments did not elect to respond to that invitation, although the Secretary of State indicated earlier that we were prepared to meet at any time.

Chairman GLENN. Which department is that, DOD?

Ambassador KENNEDY. Well, it was not the Department of State, sir.

Chairman GLENN. Well, was it the Justice Department, was it Agriculture, was it Commerce?

Ambassador KENNEDY. No, Justice Department would not have been invited.

Chairman GLENN. Do not make me run through the whole litany.

Ambassador KENNEDY. The Department of Defense did not respond.

Chairman GLENN. I can presume, unless you contradict me, it was the DOD.

Ambassador KENNEDY. I was told that the Department of Defense did not respond, regretfully.

Chairman GLENN. Just so we make sure of what we are talking about here, this is a section out of the President's statement, so it is on the record here, so we know exactly what it does say. I have referred to it and you have referred to it. The part that refers to this says:

Section 1370 of the Act calls for access by the Secretary of Defense to all non-proliferation information that the Secretary of State or the Secretary of Energy has or is entitled to have, with the exception of certain interdepartmental communications. I must consider this section to be advisory, since if it were construed otherwise, it would intrude on my constitutional responsibilities to direct and supervise officers of the Executive Branch and to control the dissemination of sensitive national security information.

The Secretary of Defense has certain statutory responsibilities with respect to nuclear proliferation that would be served by his receipt of appropriate non-proliferation information. The sharing of appropriate information on nuclear non-proliferation will be resolved through the normal interagency process in the Executive Branch.

Then it goes on to some other parts of that, just so that is part of the record.

Ambassador KENNEDY. May I respond, as to the Department of State's actions in the matter?

Chairman GLENN. Certainly.

Ambassador KENNEDY. As I indicated, the Executive Secretary of the Department has looked at the question and has indicated that he himself will personally review carefully any extremely restricted messages to ensure that the appropriate ones are, in fact, made

available to the Secretary of Defense or for reading in the Department of State.

Let me add that in a conversation with the Deputy Assistant Secretary of Defense, concerning these matters, I personally undertook to assure him that were there questions of this kind, that we could always discuss them. I would endeavor, by suggesting to the Executive Secretary where I would have any authority to do so, to try to arrange that he could at least read something if I could not provide it to him.

I, as a former military officer, do as I am told, Senator. I do not run off playing games like a lot of people do in town.

Let me also say that the Department's view is that the Department desires to and will share all appropriate information relating to DOD statutory authority. There has never been a question about that, Senator.

Chairman GLENN. We are going long on our hearings here, and I know we are going to have to end shortly but let me just say this. I know that you are dedicated to seeing that nuclear non-proliferation is an emphasis of our government. I was extremely concerned, as you are aware, when the Administration came in and Mr. Malone and his efforts were underway. I do not know what your efforts specifically were, with him.

We looked at it, at this end of the Avenue, as trying to butcher much of the nuclear non-proliferation policy we have put together for several years. So I guess we are spring loaded to be suspicious every time we see something going on that we see as undercutting what we think is a good, tough, working, important non-proliferation policy.

I know we share the same objectives. I do not know whether some of these cutbacks I mentioned earlier are strictly OMB cutbacks, they are budget considerations, but if they are—and I do not know whether they are subject to Gramm-Rudman cuts and all, but this indicates a fallacy of Gramm-Rudman to me, also. When we cannot make judgments in where cuts occur on important things like this, we have to take a whack right across the board because we are going to save a few bucks. That is what Gramm-Rudman says, you do not have any judgment, you have to take those lumps right across every function of government.

I do not know whether you are being hit in that area of budget cuts or DOE is being hit by budget cuts and this is an easy place to take it out because nuclear proliferation too often is what we half in jest refer to around here is a MEGO item, my eyes glaze over every time you start talking about it because it gets so complex and so interrelated. But if you have budget problems over there, if DOE has budget problems, or whoever has budget problems or lack of emphasis or lack of coordination, let me know if we can help straighten these things out. My objective is one thing: to make the best nuclear non-proliferation policy we possibly can make.

We passed the NNPA back in 1978. We talked at that time and I think the testimony will show I commented during debate on that and I led some of that. We commented then that I thought we had maybe 12 to 15 years before nuclear technology was so widespread around the world that any nation that wanted a nuclear weapon could have one. Maybe we have been able to staunch the flow or

stem the tide, or however you want to term it during the years to some extent. And I know you and I both are not willing to settle on that. I am not willing to give up on it yet and I still want to see us—I think one thing we did lag on with this Administration, we kept trying to sell the NNPA around the world saying do not build weapons, in heaven's name stay away from that and we will cooperate with you in peaceful nuclear means.

Meanwhile, we are going to work, we are going to get arms control and we hope to scale down the Soviet-U.S. balances of nuclear weapons while you guys here cooperate with us and do not develop nuclear weapons. That was the carrot and we waited 5 years before we really got serious. That is not your department, I know, but my view is, along with most Americans, that we waited 5 years before we got serious about arms control and really getting around to negotiating this down.

The President's view, I guess, is that we had to build our strength so it was more credible and there are a lot of things that go into that. But nevertheless, here we are these years later and I still am not willing to give up and say that well, any nation that wants a nuclear weapon is going to get one. I know that is your objective, too. We want to work together on this.

These hearings become confrontational. I know that, because information comes from one department or another. The government is so big that we do not coordinate all these things, but we are trying to bring these things out so that we can make a nuclear policy that will have the most effect in preventing the spread of nuclear weapons to more nations and we want to work together.

And if you are running into any roadblocks over there of organization or need for money or whatever, to expand your activities, or DOE's in these areas, for heaven's sake let us know about it. Do not let yourself get run over by a steamroller at OMB or somebody that will not ask for a few bucks on something that should be taking priority for our government and for the whole sane world, as far as that goes.

That is more a statement than a question, obviously, but it expresses my views on this and I want to work together with you on it.

Ambassador KENNEDY. Senator, I appreciate it. May I just make a few comments on it for the record?

Chairman GLENN. Absolutely, go ahead.

Ambassador KENNEDY. You mentioned Mr. Malone and those activities. You recall that you and I had discussion of that a few years ago and I recall that, at the time, we concluded that whereas there were a number of ideas that had been put forward—and across the government—before the Administration came into office, that those ideas never were pursued.

And indeed, I refer back to the question of the Non-Proliferation Act you recall, I am sure, that whereas there were a number of things about the Non-Proliferation Act that I did not like. It being the law of the land, I undertook not quite in the same reluctant way as a number of my colleagues about it, but undertook to go around the world selling it as something that is good for all. And I will tell you, that was a hard sell, Senator.

Chairman GLENN. And we knew it would be.

Ambassador KENNEDY. Of course. But I convinced people that it was not something that was going to destroy them, that it was something that could work. Now, we have tried to do precisely that and I do not want to see a situation in which the efforts that we have made are thrown away because I have exactly the same view of the problem that you do.

May I make one more point, because the budgetary question is a serious question. First of all, I am not aware of any diminution of effort on the part of the Office of Political and Military Affairs. We are in continual touch. I am not aware of any failure on the part of the National Security Council staff. Now proliferation was being handled by the Senior Deputy to the National Security Advisor. I do not know how much higher you want it to go.

And as to the question of delivery systems—

Chairman GLENN. The Senior Advisor to the National Security Counsel Director, who is that?

Ambassador KENNEDY. The Senior Deputy, he is deceased. We could not help that. However, there has been a detail and there are people there and there is an office which is looking after the subject and we are in continuous contact with them.

On question of delivery systems, Senator, I would like to make a comment. Indeed, early on the staff had suggested that that might be something that you would want to look into. So I had prepared testimony but then I was informed the staff would be very unhappy if I did that, but I understand that came from other departments as well.

So I eliminated it but I can assure you that there is an intense interest in the subject of delivery systems. Missile technology is a very, very intensive interest and I am interested in it, just as a number of other people are.

And as to the question of budget in DOE, I simply cannot answer that question, but I would be surprised if there were serious diminution of effort.

Chairman GLENN. I have no information at all. No one has made any request of us. All I was saying was every other function of the government is being put under the gun and if you are being put under the—that is a horrible choice of words in this subject—but if you are being hampered in non-proliferation efforts because of a lack of a little bit of budget to do your job, I just want to know about it. I am not saying that it has happened. I do not know that it has. I just wanted to make sure that you were aware of our support for you.

Let me add one other thing before we end here, just so everyone understands what the longer term part of this has been. Back when we were talking about the Nuclear Non-Proliferation Act of 1978 and how it should go, there were two realms of thought here as to how we could address the nuclear non-proliferation problem. One, that had strong support in the country by industry, of course, was that we would involve American industry around the world, we would sell everything we could sell, we would out-compete everybody else, we would make our nuclear material and our people and our technology "the" technology for the world and that way we would be involved in all the different countries around the world and we would be the ones that had the most influence.

The other tack was that it should be a government to government policy. We debated this for the better part of a year around here. It was, I guess, 8 or 9 months, back and forth with State, DOD, everybody under the sun. We had hearings. I agonized over it and laid awake at night and so did everybody else, thinking about how to do this because I was the principal author of that thing and I frankly did not know.

And we finally decided that with the status of things at that time, and trying to control it over a period of time, that the equipment and the technology was going to be sufficiently in short supply and that we probably could control this for a 12 or 15 year period better than we could if we just tried to turn American businessmen loose to sell everything all over the world.

That does not overstate it. That really is what we talked about at that time. We decided, finally, that it was better to try and do this on a government to government basis and that is the basis on which the NNPA was written.

Right before the new Administration came in, it was working fairly well. We had some fusses with the Carter Administration about the sale of fuel to India after they had used our heavy water in a PNE and all that business. We were critical of some of the things they did.

When the new Administration came in, we felt there was a very definite attempt made to shift it back to business as usual. The transition team wrote up some things that we thought undercut the NNPA and we were still sticking with NNPA, that is the law of the land, and so we have been very suspicious of efforts to undercut what our decision was back at that time.

I hope we made the right decision back then to go the government to government route. I think it has been most advantageous up to now.

That is a little bit of the background for everyone's benefit here today. I am not telling Ambassador Kennedy anything he and I have not discussed many times in spades before. But that is the reason for some of the questions this morning and some of the things that we will be fleshing out in this record.

Obviously, we are into some areas here. I do not know whether we will require future hearings on this, or whether we can do some of this by material being entered into the record as part of this hearing. We will determine that later on.

We do have one more hearing schedule on March 5 which is Thursday. Thursday March 5, Richard Perle will appear before the committee to discuss nuclear non-proliferation and U.S. national security and it would come as great a surprise in the world to me if he was not asked to comment on some of the things that have come up this morning.

So, thank you all very much for being here this morning.

Ambassador KENNEDY. Senator, may I add just one last point?

Chairman GLENN. Certainly.

Ambassador KENNEDY. I would not wish the committee to have the view that national security is the sole province of the Department of Defense.

Chairman GLENN. I agree with you on that.

Ambassador KENNEDY. National security is a matter which is our life and it is the responsibility of every public servant and, indeed, every citizen. And I do not have to tell a former military officer that we who have served understand that well.

Chairman GLENN. I do not disagree with that at all.

Ambassador KENNEDY. I spent 30 years in the Department of Defense as a military officer and I worked for the Secretary of Defense and I worked 6 years as a Deputy Assistant to the President in the National Security Council.

I do not think that it is reasonable to suggest that the Department of State or indeed the Department of Energy has no competence whatever in the field of national security. But that seems to be the basic tenor of things.

And I just want to suggest, Mr. Chairman, I resent it.

Thank you, sir.

Chairman GLENN. I do not think anything I said this morning indicated that.

Ambassador KENNEDY. Not you, sir.

Chairman GLENN. I could turn that around, though, and say that for the Defense Department to do the job it is supposed to do, it needs a flow of information and it needs its inputs here as to what the military is capable of doing in these situations. If we know that a weapon is being developed in a certain place and that requires certain actions by the military to either have forces in a certain area or alignment or what the new alignment of nations might be, that is what we base our defense budgets on and what the equipment buys are.

So I agree with you completely that the matters of defense and national security are not solely those of the Defense Department, but neither should they have information curtailed—if that has been the case—neither should they have information withheld from them that would help them do their job in national defense, which would be prime if we really start shooting.

Ambassador KENNEDY. We do not believe that anything has been withheld from them and nothing will be withheld from them. I hope, at some point, that they will be able to share with us all of the traffic that comes in through their own system none of which, as you notice, was included in those 54 items that I mentioned nor none has been in the entire time that I have been in that office.

Thank you, Mr. Chairman.

Chairman GLENN. Thank you.

The committee will stand in recess, subject to the call of the Chair. Thank you very much.

[Whereupon, at 12:30 p.m., the committee adjourned, subject to the call of the Chair.]



NUCLEAR NON-PROLIFERATION AND U.S. NATIONAL SECURITY

THURSDAY, MARCH 5, 1987

U.S. SENATE,
COMMITTEE ON GOVERNMENTAL AFFAIRS,
Washington, DC.

The committee met, pursuant to notice, at 9:43 a.m., in room SD-342, Dirksen Senate Office Building, Hon. John Glenn, chairman of the committee, presiding.

Present. Senators Glenn, Roth, Levin, Sasser, and Bingaman.

OPENING STATEMENT OF CHAIRMAN GLENN

Chairman GLENN. The hearing will be in order.

Today we continue with our hearings on the global spread of nuclear weapons and its effect on the U.S. national security. We are looking to clarify the threats that our country faces in this area, and to see if the Administration's policies and procedures are adequately addressing these threats.

Last week the State Department's chief spokesman on nuclear non-proliferation policy, Ambassador Richard Kennedy, presented his views on these subjects, and today we have invited Assistant Secretary of Defense Richard Perle to give us his perspective.

Let me say at the outset that these hearings have not given us much hope so far at least that U.S. Government efforts to stop the spread of nuclear weapons are indeed succeeding. Take Pakistan for example. Last October President Reagan certified to Congress that Pakistan does not possess the bomb. But last week we heard testimony based on the latest Carnegie Endowment report that Pakistan most likely has the capability to build all of the components of a nuclear weapon.

A few days later, any remaining doubts seemed to be erased when Dr. Abdul Qadeer Khan, who is Pakistan's top nuclear scientist and director of their nuclear laboratories—in fact, the labs are named after him—stated in a London Observer interview that Pakistan already has the bomb, and claimed that Pakistan had produced highly enriched uranium, has mastered nuclear reprocessing, and would use the bomb if Pakistan's existence were threatened.

Now, this interview was conducted by a well-respected Indian journalist, and it was witnessed by a Pakistani colleague, both of whom have confirmed its validity despite Dr. Khan's later denials. It may be just a coincidence, but in a relevant action on Sunday,

the Indian Prime Minister asked for a 43 percent increase in India's defense budget, which would raise it to about \$10 billion.

The circumstances in South Asia appear to be deteriorating. We could be on the verge of an Indo-Pakistani nuclear arms race that is based in no small part on our failure to do everything possible to restrain Pakistan's nuclear weapons ambitions. This failure has resulted, it now appears, in Pakistan having the bomb along with a "made-in-the-USA" delivery system, the F-16, if they wanted to use it. If Dr. Khan's statements are correct, and I must assume that they are, then the long-sought Islamic bomb, as former Pakistani Prime Minister Bhutto termed it, is now a reality. The consequences of this for the security of the United States, as well as for Israel, India, and other nations must be very carefully assessed.

I find myself on the horns of a dilemma. I want, and I think most of us want, to help the Afghan rebels with the flow of arms and help that we are giving through Pakistan. But we also know it is in our national security interest to stop the spread of nuclear weapons. We have tried to have it both ways, but the time has come where we have to draw the line. No matter how strongly we feel about supporting Pakistan at the moment, we must give even greater consideration to the perilous spread of nuclear weapons. If we are indecisive now, where will we draw the line on nuclear matters with regard to Argentina, Brazil, Libya, South Africa, or any of the other countries that are or may soon be of proliferation concern?

Where will the world turn for leadership in stopping the spread of nuclear weapons if the United States fails to exercise its moral authority, its political influence, and technical leadership at this crucial juncture? Accordingly, I am sending a letter to the President today urging suspension of military assistance to Pakistan until a thorough review has been conducted of the situation in South Asia. I firmly believe that this assistance should not be restarted until the President certifies that he has received reliable assurances from Pakistan that they have ceased producing nuclear weapons materials.

These developments in South Asia call to mind Ambassador Kennedy's statement that, and I quote, "The spread of nuclear weapons to additional nations could eventually mean the end of world order as we know it."

Despite these sensible words, I am dismayed by the growing signs of disarray within the Administration on addressing nuclear proliferation as a grave threat to our national security. Assistant Secretary Perle, our witness today, has charged that, and I quote, "The shrinking information flows from the State Department raise the question whether the Secretary of Defense can meaningfully perform" his responsibilities under existing national security and atomic energy legislation.

Serious differences seem to exist within the Administration over our fundamental policy for preventing the spread of nuclear weapons and the security implications thereof. As an example of these divisions, Assistant Secretary Perle told a European arms control conference last year that, and I quote, "There is no place for the spread of plutonium around the world in any sensible policy aimed

at restricting the proliferation of nuclear weapons, and I think that traffic in plutonium ought to be halted and halted absolutely."

I couldn't agree with him more. Meanwhile, it is our understanding that the Administration is now putting the finishing touches on sweeping international agreements that would give up, for 30 years, our right to review on a case-by-case basis the physical security of massive international shipments of weapons-grade plutonium. This is American origin material.

I do not see nuclear proliferation as either a purely diplomatic problem or exclusively a problem for our military and defense experts. It is clearly in the interests of the country for both the State and Defense departments to work in close partnership, and from what I have been hearing lately, this partnership is lacking in the Administration's approach to these nuclear threats. I intend to see this problem resolved.

As Chairman of this committee, I consider halting the spread of nuclear weapons to be one of my highest priorities. I have worked on this problem for most of the 12 years I have been here. With the security of this Nation, indeed all nations, at stake, I expect no less from the Executive Branch.

Senator Roth, do you have any comments?

OPENING STATEMENT OF SENATOR ROTH

Senator ROTH. Thank you, Mr. Chairman. I believe this hearing today can serve a useful service to our national Government by clarifying the procedures currently being followed in the Executive Branch on matters relating to nuclear non-proliferation. Clearly, different sectors of the Executive Branch hold widely divergent views as to how best to prosecute a meaningful non-proliferation policy.

Last week Ambassador Kennedy expressed most serious disagreement with certain pronouncements emanating from the Department of Defense, and I suspect this morning, we shall hear the reverse side of the case.

I feel it appropriate to make two remarks. First, the existence of such disputes argues for a lack of proper organization in the Executive Branch. Inevitably, disputes will always exist in this or any other Administration, or indeed, any organization. However, there are bodies in the Executive, most notably, the National Security Council, which are responsible for the coordination of policy between departments and for the resolution of inter-departmental disputes. If such disputes are properly resolved, it is the responsibility of all involved parties to abide by the decision made even in the event of their disagreement. Should any party find that he or she in all honesty cannot accept the resolution, then it is their duty to resign.

Second, I must point out that allegations have been made relating to the withholding of cable traffic from involved parties in the Federal Government. If this is true, it is not to be tolerated. If the State Department has withheld cable traffic from the Department of Defense, or vice versa, the offending party is only insured that the non-proliferation debate will be conducted in an atmosphere of uninformed ignorance. I hope that today's hearing will shed some

light on the status of the Administration non-proliferation policy and the mechanism used to enforce it.

I am indeed happy to welcome Mr. Perle here, a man who is known for his candor and brilliance. We welcome you here.

Chairman GLENN. Thank you. Senator Bingaman?

OPENING STATEMENT OF SENATOR BINGAMAN

Senator BINGAMAN. I just have a very short statement I will put in the record, Mr. Chairman. I look forward to the testimony.

Chairman GLENN. Thank you.

[Senator Bingaman's prepared statement follows:]

PREPARED STATEMENT OF SENATOR BINGAMAN

Mr. Chairmen, I thank you for holding this hearing today on the extremely important issue of Nuclear Non-Proliferation. At this time when our opportunities for substantive agreements with the Soviet Union on reducing nuclear missiles seem most promising, it is especially important for us to ensure that other nations are abiding by the Nuclear Non-Proliferation Treaty and the other agreements which exist. It is also necessary to ensure that non-signatories are not developing nuclear weapon capabilities while receiving U.S. economic and military assistance.

The recent reports that Pakistan has developed a nuclear weapon are very disturbing, especially given the potentially highly explosive situation in that part of the world. In light of these recent reports, I look forward with great interest to the testimony of Richard N. Perle, Assistant Secretary of Defense for International Security Policy.

Thank you Mr. Chairman.

Chairman GLENN. We also have a statement from Senator Heinz, who could not attend this hearing, and it will be inserted into the record at this point.

[The statement referred to follows:]

OPENING STATEMENT OF SENATOR HEINZ

Mr. Chairman, I would like to commend you for calling these hearings on nuclear non-proliferation issue. This is an issue that is of great importance to every person on this planet. I also want to compliment Senator Glen for his long involvement on this issue—he has been the Senate's conscience on nuclear non-proliferation for many years.

In recent years, there has been a frightening increase in the membership of the "nuclear club." Besides those countries that are known to have a nuclear capability, there is at least one other that is no more than "a few screwdriver turns away" from detonating a nuclear bomb. To a great extent, the nuclear genie is out of the bottle. What we must do is prevent any further spreading of this most frightening genie.

I am pleased that Assistant Secretary Perle is our witness today. He knows better than most what a difficult task lays before us. Richard Perle understands well that technology almost always defies government attempts to control its movement across borders. Nuclear technology is no exception. So, I will be especially interested to hear what DOD can do to prevent the spread of nuclear weaponry.

I believe that the stringent controls we put on the transfer of U.S. nuclear technology are valuable. If properly enforced, they can help prevent the spread of militarily useful nuclear technology. But as in other areas of high technology, the United States is not the only source. Barring effective, long-term, adaptable multi-lateral cooperation to control nuclear technology, its spread is probably inevitable.

The Defense Department has an important role to play in the enforcement of non-proliferation. Our very security is at stake. The Department of Defense authorization requires DOD to have access to all non-proliferation information. I have questions whether appropriate information is being shared.

The Congress and the Administration must work together, and do whatever is humanly possible to make sure that there is not a further proliferation of nuclear weapons. I look forward to this Committee's efforts in trying to put back and keep the nuclear genie in the bottle.

Chairman GLENN. Mr. Perle, welcome this morning. We are glad to have you with us this morning. Perhaps you would also like to introduce the other people you have at the table with you there.

Mr. PERLE. Yes, Dick Speier, Jerry Brubaker and Michael Huffington, on my right. I think this is the first time he is dealing with the committee; he is the Deputy Assistant Secretary who has immediate responsibility for these issues.

Chairman GLENN. Your first time up here, welcome. In particular, welcome this morning here.

Mr. HUFFINGTON. Thank you, Mr. Chairman.

Chairman GLENN. And you all could pull those mikes right up. This is not the world's greatest sound system on Capitol Hill. If you could pull those mikes right up in front of you, it would help everyone in the room to hear what you have to say.

Mr. Perle, we look forward to your statement. Thank you.

TESTIMONY OF RICHARD N. PERLE, ASSISTANT SECRETARY OF DEFENSE,¹ ACCOMPANIED BY MICHAEL HUFFINGTON, DEPUTY ASSISTANT SECRETARY OF DEFENSE FOR NEGOTIATIONS POLICY, DEPARTMENT OF DEFENSE; GERALD BRUBAKER, ASSISTANT FOR NON-PROLIFERATIONS POLICY, OFFICE OF NON-PROLIFERATION POLICY; AND RICHARD SPEIER, ASSISTANT FOR NON-PROLIFERATION POLICY, OFFICE OF NON-PROLIFERATION POLICY

Mr. PERLE. Thank you very much, Mr. Chairman. Thank you for holding these hearings and for the interest that you and this committee have shown over many years in this issue—which is vital to our national security, to the defense interests of the United States—this question of the proliferation of nuclear weapons.

I think it is obvious that the extent to which nuclear weapons proliferated throughout the world and turn up in the arsenals of other countries has profound consequences for our security. Clearly, the presence of nuclear weapons elsewhere in the world will have a bearing on the environment in which American military forces may be forced to operate.

Perhaps more importantly, they will have a bearing on whether conflicts erupt in other parts of the world—conflicts into which either the United States or the Soviet Union, or ultimately both, might conceivably, even against their will, find themselves drawn. It has been our view for a long time that to the degree to which it is possible, by creative policies applied day in and day out to stemming the flow of the constituent elements that permit proliferation, it ought to be our national policy to exercise those limitations and discourage the acquisition of nuclear weapons by other countries.

I think on this broad policy objective, there is now and there long has been a consensus between the executive and legislative branches and within the agencies of executive departments. Where difficulties sometimes, and not surprisingly, arise is in the detailed application of that broad principle to the many situations that require balancing judgments about the impact on the potential acqui-

¹ See p. 176 for Mr. Perle's prepared statement.

sition of nuclear weapons of one action or another against other important policy objectives, such as the quality and nature of the relationship between the United States and a friendly country.

So there will always be policy dilemmas. There will always be institutional points of view that reflect the inevitable orientation of different departments of the Executive Branch.

I believe, Mr. Chairman, that there is an issue involving nuclear proliferation and our national security interests that requires some fresh thinking: that is the set of policy dilemmas that are posed for the United States when we find in places in the world pairings of countries that may be engaged in a competition to acquire nuclear capabilities.

This is particularly true when one of the two countries involved is a friend or even an ally of the United States and the other is not. And if the country that enjoys friendly relations with the United States is a recipient of assistance from the United States, then, as you know, we are under an obligation to terminate assistance to that country in the event that they cross the nuclear threshold and acquire a nuclear weapon.

The other country may not be inhibited by any such sanction and, indeed, one could get the unintended consequence that the country unaffected by an American sanction is even encouraged to seek its own nuclear capability because it knows that if the country dependent on the United States, or associated with the United States, attempts to respond, it will be punished. In that sense, one country may have a double motive for provoking a search for nuclear capability.

And I would very much hope that between us we could think of ways in which we might somehow fine-tune the existing American practice of exerting sanctions against proliferators who are friendly to the United States in order to build disincentives to the other countries that may be provoking friends of the United States to respond.

I do not have an easy answer to that. It is not an easy situation, and one would hope that creative diplomacy could be brought to bear. I do think it is a problem now, and is likely to become a problem in the future, possibly even in other places in the world than the ones that we would normally think of today.

There is an important Defense Department interest in one aspect of non-proliferation that is not generally thought of: that is the assistance that I think it is right and proper for the Defense Department to render when it comes to the movement of nuclear materials internationally which, if unprotected, would be vulnerable to terrorist action or intervention or seizures by states that come so close to being terrorists it is hardly worth distinguishing between them. This is one of the many ways in which the Department of Defense is involved in the effort to limit some of the potential dangers associated with the movement of nuclear material in the world. We have played that role, and we will continue to do so, and believe it important that we be involved in the planning and execution of security arrangements for the movement of nuclear materials.

Mr. Chairman, let me say that there is no point in denying that there have been differences between departments in the Executive

Branch over the conduct of non-proliferation policy, on which, as I said, I think there is a broad consensus. These differences are over the procedures by which information is shared among departments, and over the extent to which the Department of Defense is involved in internal administration deliberations.

We have endeavored to work out differences between the Department of Defense and other departments. I think it is fair to say that these differences have been exacerbated in recent years by a frankly more aggressive Defense Department attitude toward the substance of this issue which is inhibiting the proliferation of nuclear weapons. That has been shown by—

Senator ROTH. I am sorry. I could not hear you. Would you repeat yourself, please?

Mr. PERLE. Yes. I said I believe the differences have been exacerbated somewhat by a more aggressive posture on the part of the Defense Department today compared with its predecessors in attempting to diminish nuclear proliferation. That is, under Caspar Weinberger, the Defense Department has been more than normally interested in this issue and has taken seriously the importance of doing what can be done to diminish the acquisition of nuclear weapons elsewhere in the world.

And so we have attempted with vigor to contribute to the interagency deliberations, and this has not always been an entirely welcome assertion on our part. But I want to say that I believe we have begun a process of resolving these differences, and I am optimistic that the discussions now under way between the Department of State and the Department of Defense will lead to an understanding between us expressed, I hope, in a memorandum of understanding that will put on a far more positive and firmer footing the relationship between the two departments in the future.

I should like also to say, Mr. Chairman, that I think this effort to reconcile differences could not have come about had not this Committee shown an interest in what it recognized to be a problem within the Administration. And it could not come about were it not for the active intervention of the National Security Council, which I believe is very ably managed at the moment and has moved out smartly to deal with residual management problems that they inherited, and the active involvement of the Office of Management and Budget. Just yesterday, we had an interagency meeting on this very subject, and with the continuing involvement of the NSC, which I fully expect, and of the Office of Management and Budget, I would hope that on the next occasion I see you I can report that we have satisfactorily resolved these differences, and in the interests of a more effective effort to deal with the problem of nuclear proliferation. Thank you, Mr. Chairman.

Chairman GLENN. Thank you, Secretary Perle.

A report in last Sunday's London Observer quotes A. Q. Khan, Pakistan's top nuclear scientist, as I said in my opening statement, as claiming that Pakistan has produced weapons-usable uranium, has mastered plutonium reprocessing, and indeed, he says they possess nuclear weapons.

In light of Pakistan's reported progress toward the bomb, do you think it is still fair for the Administration to certify: first, that

Pakistan does not possess the bomb, and secondly, that our aid is, indeed, significantly reducing the risk that they will acquire one?

Mr. PERLE. Mr. Chairman, if I might begin with the latter point because it seems to me an important one. How does one go about discouraging a country which feels threatened from taking this action that we desire that they not take—that is, from acquiring nuclear weapons, presumably in order to deal with the sense of menace that they feel?

Is that purpose advanced by denying them aid which may only deepen their sense of insecurity, or is it more properly served by the kind of collaborative and diplomatic effort that one always hopes will succeed in instances of this kind? I believe that determination of aid is a sanction of last resort for two reasons. One is that the aid is being provided because we believe it is in our interests to assist Pakistan, in particular in light of the Soviet invasion of, and prosecution of the war in, Afghanistan, and because we have had a close relationship in other respects as well. And secondly, it should be an instrument of last resort because it may have the effect of driving the Pakistanis even faster in pursuit of nuclear weapons because the absence of aid would add to their vulnerability and their insecurity.

And so we face a real dilemma here. I think this is not the only case in which we face that dilemma, and I would very much hope that the Administration would be successful in its efforts diplomatically to persuade the government of Pakistan that the acquisition of a nuclear weapon would entail such a drastic and unavoidable response by the United States that it is in the overall interest of Pakistan not to take that step.

Now as to whether that step has been taken, I have no definitive information. I understand that the statement to which you refer was subsequently denied. That does not surprise me. I think we will have to try to get to the bottom of it, and certainly we will.

Chairman GLENN. In response to that, it was denied, but the Indian reporter, Mr. Kuldip Nayar, is very well-respected, and indeed, I have here a copy of an editorial that was published in a Pakistani paper, a Muslim newspaper, by the Pakistani journalist who accompanied Mr. Nayar, and he confirms basically what was said at that meeting. We understand that after he published this editorial, that the Pakistani Government has now taken action against that newspaper because he published this editorial.

So the whole thing looks to me as though we now have out in the open what some of us have known or thought we have known for a long time, that Pakistan was heading for the bomb by whatever means they had to get it. They were carrying out former President Bhutto's statement of some years back that once India had exploded the bomb that Pakistan would "eat grass," in his words, if they had to in order to get the bomb themselves. And I think we have been convinced for a long time that that has been what they have been doing.

But back to our own concerns here. How would a Pakistani bomb affect U.S. military and national security interests both within the region and globally?

Mr. PERLE. Of course, it is difficult to anticipate scenarios.

Chairman GLENN. Let me add this, so everyone will know what we are talking about here. One of our concerns here has been the State Department has been going along a diplomatic route. Now, there are also, we have thought from this end of the avenue, major national security concerns that the Defense Department should be aware of, should take cognizance—such as alignment of forces, where we put our forces around the world does change as we find different nations becoming bomb capable, or bomb possessing. And that is apparently where we are now with regard to Pakistan. Now, part of our problem on this has been the flow of information between State and DOD. And that has been lacking.

We even passed an amendment last year that required State to pass along that information to DOD so national security interests could be taken into consideration as well as the sometimes more esoteric diplomatic matters. That is the reason for this question. So I just wanted to set the stage for it a little bit.

Mr. PERLE. Senator, of course it is difficult to anticipate the scenarios in which the United States might be involved in the proximity of a nuclear weapon, or in or near the territory of the country that possessed one. Clearly, the presence of a nuclear arms competition between Pakistan and India would greatly increase the instability of that region. Tremendous damage and destruction would result if a war were to occur, and if it were to become a nuclear war. We have always been concerned that among the ways in which the United States might find itself involuntarily drawn into a nuclear conflict is a situation in which a nuclear weapon was used and created tremendous confusion as to what had actually happened. If it were to happen in the context of a dispute in that region of the world, with the presence of Soviet forces in Afghanistan and a number of unstable regimes, we could find a situation that would be extraordinarily difficult to control, with obvious consequences for American forces in the region, and indeed, ultimately our security at home.

So we have long taken the view that the proliferation of nuclear weapons gives rise to a vast array of scenarios that could ultimately entail damage to American forces or to the United States itself.

Chairman GLENN. You made a speech at Wehrkunde a short time ago that received considerable attention. I think that would be an understatement perhaps. You berated our allies for being "mealy-mouthed" about various world security issues. What do you think of the assurances from Pakistan. How would you term the assurances from Pakistan we have received through the years? In fact, I have had them personally from President Zia, Yaqub Khan, Munir Khan, others in their whole program, or in their government, that they were not developing nuclear weapons.

Would you care to characterize those assurances we have received in the past about their dedication to peaceful nuclear power?

Mr. PERLE. Well, I am not familiar with all of the assurances that you have in mind, so I would not want to characterize all assurances with the same reflection. But I think this is an area in which assurances often have a different meaning for the assurer than the assuree.

Chairman GLENN. What resources is DOD able to draw upon to address the national security issues now surrounding the spread of nuclear weapons?

Mr. PERLE. Well, this is a topic of interest within the Department of Defense, and within the Defense Intelligence Agency. We have a small office. In fact, most of the individuals involved in this activity you see before you at this table on the policy side of the Department of Defense. The intelligence community within the Defense Department is, of course, involved as well. But we do not have a large bureaucratic establishment.

Chairman GLENN. Well, what I was referring to is I would like your views of whether the flow of information has been adequate back and forth between the State Department and the Department of Defense? For instance, Ambassador Kennedy of the State Department testified last week that on the subject of nuclear proliferation, "The Department of Defense has been cut out of nothing of which I am aware." He dismissed charges to the contrary that I brought up including those made under your name in the letter that had been sent over to us. He termed those as "misinformation" and "poppy-cock," and my dictionary—I checked yesterday afternoon—defines "poppy-cock" as empty talk and foolish nonsense. Does the view from the Pentagon differ from that?

Mr. PERLE. Well, Senator, I would not have said the things I said if I did not think there was a basis in fact for making those statements. We have, in fact, done statistical analyses on the flow of information into the Department of State and from the Department of State to embassies abroad on the general subject of proliferation of nuclear weapons and nuclear capabilities. We have measured that flow against what has come to the Department of Defense, and we find that the percentage arriving at the Department of Defense is extraordinarily low. It is a handful of percentage points.

Chairman GLENN. What has Defense done to try to resolve these problems? Can you provide us with some of your documentation of your efforts to resolve this?

Mr. PERLE. I can indeed supply the committee with the chronology of the ongoing discussion. Most recently, the Executive Secretary of the Department of Defense has been in correspondence with his counterpart at the Department of State because Ambassador Kennedy has informed us that he has no say over the dissemination of the cable traffic within his area of responsibility. Those decisions are made, rather, by the Executive Secretariat of the Department of State. So the two executive secretaries have been in touch, and a list of the kinds of information that we require in order to play a full and responsible role with respect to these issues has been provided to the Department of State. As recently as yesterday, we had an interagency meeting at which this was the subject of discussion. And, as I said at the outset, I am hopeful that we have now turned the corner and begun as an Administration to pull together and resolve the differences that have existed up until now.

But as to the facts in the past, I do not think there is any doubt that the flow of information to the Department of Defense has been hopelessly inadequate.

Chairman GLENN. That was the outcome of the meeting yesterday? What was resolved? What is going to come out of that meeting that will make certain that we have a better flow of information?

Mr. PERLE. The National Security Council which chaired the meeting, OMB was present as well and other agencies, have agreed that we will attempt to work out a memorandum of understanding between the Department of State and the Department of Defense that will define the flow of information between the two departments. And I am confident that it will be possible to do that. Ambassador Kennedy said yesterday that he could not agree at that moment because he wished to have a draft memorandum of understanding reviewed by his legal counsel and by the Secretary of State, or the Acting Secretary of State. And I have been assured by the National Security Council that by the end of the week I will hear back from them on the progress that we are making, and I would hope that within a very few days, we will have brought this new position.

Chairman GLENN. Very few being what? Four, five, a week?

Mr. PERLE. No more than a week, I would hope.

Chairman GLENN. No more than a week. If we do not have it—I want to follow up on this—if we do not have that, will you be willing to come back and testify again with us?

Mr. PERLE. I will, indeed, and perhaps you would permit me to say, Senator, that the President in concluding, as he did, that the language added to the Defense authorization bill, requiring the kind of collaboration that we are talking about, was advisory in nature, should in no sense be understood as a lack of interest on the part of the President, the White House, or the National Security Council in resolving this dispute. I think there was a constitutional assertion there. This was on the advice of legal counsel. But, on the substance of the issue, I was repeatedly assured that there is an intense interest in the Administration in getting this issue resolved and resolved constructively. And I certainly believe that is true of the National Security Council.

Chairman GLENN. Thank you. My time is up, and I will turn this over. Just one comment. The response that the President made at our direction for better flow of information was that they questioned the constitutionality of that kind of law, and that they termed it to be "advisory" only. We just disagree with that 100 percent. We do this all the time with various departments of Government in directing, as the legislative branch of Government, how this will be set up, what the flows are, who is to have certain responsibilities. To raise the constitutionality issue as to whether Congress can direct the flow of information where we have seen a problem, I thought was a little bit ridiculous. But we will address that with some different questions. Senator Roth.

Senator ROTH. Thank you, Mr. Chairman. Just for a moment, I would like to carry on from your opening remarks. It is my understanding that the National Security Council now is becoming involved not only in the exchange of information but the policy matter as well? Is that correct?

Mr. PERLE. Oh, yes. The NSC has for a long time been involved in the substance of these policies, perhaps most energetically and

creatively in recent times when Don Fortier was the Deputy Advisor to the President for National Security. Don, who had a great deal of experience on this issue in the Congress, in fact, before going into the Executive Branch, took a very serious interest in this question of nuclear proliferation, and he was an absolutely splendid official in Government, who unhappily passed away at the age of 39 last summer.

And I think that void will now be filled by the new team that has been assembled under Frank Carlucci.

Senator ROTH. That is the point I want to address. I realize there has been interest in the past, but the fact is that the policy differences have not been reconciled, and I think the time is past for mere talk, but for some real results. And if I understood you properly, I thought what you were saying is that there really is a new initiative to reconcile these and to move in these areas. Am I correct?

Mr. PERLE. That is correct.

Senator ROTH. I think that is a most important factor. Let me ask you this. I have noticed that almost all materials relating to non-proliferation matters are extremely highly classified. Do you believe that information is being deliberately over-classified to restrict its audience as much as possible?

Mr. PERLE. I do not believe that on the whole. There is always the danger of erring to one side or the other, and given the sensitivity of much of the traffic that we are talking about, I think I would rather see us err on the side of over rather than under-classifying. I can imagine situations in which the shared objective inhibiting the proliferation of nuclear capabilities would actually be aided by a single act of carelessness in the transmission of sensitive information. So in this area, in particular, I would be inclined to err on the side of over-classification. But the issue of classification and the issue of access are quite separate questions; one can have a highly restricted category of information with the necessary access across departmental lines worked out successfully.

Senator ROTH. Do you think over-classification has been partly used for that purpose to prevent exchange or prevent access?

Mr. PERLE. I think there has been a certain amount of traffic related to the proliferation issue that has moved through channels normally reserved for routine day-to-day management of an internal nature, and therefore distributed only within the Department of State. Now that is a case of under-classification possibly.

There is a channel known as STADIS which stands for State Distribution. Traffic that moves in those channels is not distributed outside the Department of State. Now, mostly that has to do with a diplomat assigned to one embassy being moved to another, personnel matters—that is, the kinds of things that are really of no interest to departments other than the Department of State.

The inclusion of material related to nuclear proliferation in that channel strikes me as an abuse of that channel. That is not its intended purposes; that is not over-classification, but it seems to me a miscategorization. I hope and expect that that would not happen under reasonable understanding between the departments.

Senator ROTH. I was interested in your comment that you would rather have over-classification because I think as you may recall

Senator Nunn and I last year held some hearings, not so much in this specific area, but generally on the subject of classification. We felt that part of the problem of breaches of security, of secrecy, has been the fact that there is too much classified information so it does disturb me to hear even you say that we had better over-classify in this area because I think the number of documents that are made confidential or higher has almost made it impossible to insure their protection.

Mr. PERLE. Well, I have almost come to the point of believing that it really does not matter, that things leak in such torrents out of the Executive Branch of Government that whether they are classified secret or top secret may be irrelevant. Indeed, the higher the classification, the more rapidly it is likely to appear in the newspapers.

I think it is a terrible problem, and there has been serious damage to our security. It covers a whole range of areas. I have seen instructions to our negotiators, fall-back positions, displayed in the pages of the New York Times in the midst of an ongoing negotiation, with the result that the preferred American position collapsed.

I have seen sensitive reporting on differences between agencies of the Government over the preparation of proposals to put to other governments, with the result that when those proposals are put forward, the other governments involved know precisely the lines of cleavage along which they hope to exploit differences in order to further not American but their own interests.

And I have seen serious leaks that have led our adversaries back to the sources of information vital to our security with the result that those sources of information have dried up. They have been denied to us.

So how to reconcile the need to keep some things secret with the necessity to engage in the policy process with those people who have the appropriate expertise and responsibility is a very difficult question. It is not simply by stamping the document "top secret," and I would much prefer to see a greater degree of personal accountability in the system because I think we have been badly damaged.

Senator ROTH. I would agree with that, but I am concerned that too much is classified and is really realistically impossible to safeguard it. I think you also are accurate that the higher it is classified the greater incentives there are to leak it.

Let me go on. When in DOD's opinion is a nuclear bomb a bomb? In other words, if a country can assemble a bomb inside of hours, is that country deemed to be a nuclear bomb holder? What if it can assemble the bomb in 1 day or 2 days?

Mr. PERLE. This reminds me of another debate that I would not dream of intruding into: when does life begin? I think that as a practical matter, the difference, the relevant difference, probably ought to be when does a country possess a device which can deliver significant nuclear yield and a means of delivering it.

We do not normally dissociate the means of delivery with the existence of the device itself. One can imagine a device so unwieldy that it could not be effectively delivered. On the other hand, deciding when the constituent elements of a device that could be assem-

bled expeditiously constitutes crossing that critical line, I think, is an awfully difficult question. But I would not look only at the question of the device. I would look at the device in relation to its deliverability and its reliability.

If you have something approaching a prototype, the reliability of which is very uncertain, that poses an entirely different set of concerns on the part of an entity or a country that might be a victim, potentially a victim, of that device. I do not think there is any hard and fast and clear line of demarcation that would serve for all policy purposes.

Obviously, when writing statutes one has to have a definition in mind. But I think it's almost impossible to answer that question absent the context and the specifics of the context in which it is asked.

Senator ROTH. You alluded in your earlier testimony to other troublesome spots. Would you care to be more specific and state why they are trouble spots?

Mr. PERLE. Well, one that occurs to me is North Korea/South Korea, a place in the world with a long history of tensions, suspicion, and heavy armament on both sides. What I had in mind is the sort of dilemma that arises when in our desire to discourage our South Korean friends from considering that the acquisition of a nuclear device would be in their interest, we pose potentially very real and damaging sanctions. But we have no comparable capacity to influence North Korea.

And this has to give rise to the concern that maybe the North Koreans will deliberately provoke the South Koreans in order to spoil what is a splendid security relationship between the United States and South Korea. I do not say that will happen, but I was trying to raise the question of whether we could not in our approach to discouraging proliferation on the part of our friends find a way to do so that would not have the unintended consequence of encouraging our enemies to stimulate our friends.

The other areas of the world where there has been an interest in the acquisition of nuclear capability, I think, are pretty well-known. They are, invariably, areas of tension, usually between pairs of countries, or areas where a country is, if not ostracized, becoming a pariah state, and feels itself threatened and embattled like South Africa. And I think this raises the very important question of how one creates a security climate not dependent on local nuclear weapons that will enable countries that might otherwise be tempted to acquire nuclear weapons to consider that their security interests are better met by not doing so.

And here, I think, we have an opportunity to be more engaging and creative than we have sometimes been in the past.

Senator ROTH. My time is up, Mr. Chairman.

Chairman GLENN. Thank you. Senator Sasser.

Senator SASSER. Thank you very much, Mr. Chairman. Mr. Perle, it is safe to say that the State Department, the Department of Defense and the Congress all agree that the spread of nuclear weapons is not in the national security interest of the United States and does not contribute to international security. Last week, the committee heard from the State Department, and myself and my colleagues were assured that the State Department and the Adminis-

tration's commitment to non-proliferation is complete and unshaken. Now, you also assure us that the Department of Defense is committed to non-proliferation, and I am sure that that is correct.

But what in the world is going on in the minds of those in the Administration who would not want to share with other agencies or other departments facts that would bear on trying to carry out a policy of non-proliferation? Can you enlighten the committee on what their motives might be?

Mr. PERLE. Well, I believe there is among executive agencies a tendency to want to be the exclusive instrument in policy. This is not surprising, and it affects areas other than this question of proliferation of nuclear weapons. And I think the Department of State has over the years come to believe that it is uniquely equipped to execute the sort of diplomacy that might achieve results in this area.

Some of us think that other departments have a contribution to make as well including a contribution to the kinds of judgments that must be made about how far one should go in balancing competing sets of interests, one of which is to discourage countries, including friendly countries, from acquiring nuclear capabilities. The other of which is to maintain a harmonious and easy relationship with those countries.

We sometimes draw the line differently, and most agencies of government would prefer to draw their own lines.

Senator SASSER. Well, let me just ask you this. Is the Department of State capable of obtaining the same kind of analysis that the Department of Defense is capable of obtaining with regard to a country's progress down the road to nuclear capability, in your view?

Mr. PERLE. If what you have in mind, Senator, is assessments of the status of nuclear programs, I believe the Department of State can acquire the same data. We have within the Department of Defense, and of course, within the Department of Energy as well, experts who can probably make the kind of technical judgments, for example, estimating how far, how distant from having a workable device, a country may be on the basis of what is generally fragmentary intelligence information. I think that capability probably lies largely outside of the Department of State.

But we and the Department of State together depend on outside institutions for that sort of information.

Senator SASSER. So the Department of Defense and the Department of State depend primarily on the same sources of information on questions of nuclear proliferation? Would that be a fair statement, Mr. Secretary?

Mr. PERLE. Yes, I think that is a fair statement.

Senator SASSER. Now, Dr. Khan, the so-called "Einstein of Pakistan," was quoted in the London Observer an article on March 1, 1987 as saying, and I quote, "Indeed it was difficult particularly when America and other Western countries stopped selling anything that could be used in manufacturing the bomb." Still quoting, "Embargoes on such small things as magnets, and moraging steel"—I understand that is the steel used in making centrifuges. And this is where we come to the interesting part of the quote,

"but we purchased whatever we wanted before Western countries got wind of it."

Now, I think that quote from Dr. Khan tells us two things: that embargoes do work and that embargoes should have been imposed sooner. Now, the question occurs to me just how advised was the Department of Defense of the fact that Pakistan was on the verge of crossing the nuclear threshold and, indeed, it appears now, has crossed it?

What sort of intelligence did the Department of Defense have on that matter, and did the Department of Defense feel that it was being kept fully informed by the other agencies of Government as to Pakistan's progress?

Mr. PERLE. Well, Senator, let me say, first, that I have no independent corroboration of the statements made on the occasion to which you referred. And I can imagine that some Pakistanis might consider it to be in Pakistan's interest to suggest that they have a nuclear device even if they did not have one, and I can also imagine that someone might talk indiscriminately about a nuclear capability and then wish he had not. So the statement alone is not dispositive in my view. One would have to look at what evidence may or may not exist to corroborate.

To the best of my knowledge, we have a pretty good relationship with the intelligence community, and generally speaking receive the information we need. But there is an unavoidable epistemological problem here which is I cannot tell you what it is that I do not know because it has been withheld from me, and one can never be sure that everything available is being fully shared.

And I must say that there may be things of such sensitivity that their further dissemination beyond the very small number of people with a highly specific need to know would be ill-advised. So I would not necessarily complain if certain kinds of very sensitive information were withheld.

Senator SASSER. Mr. Secretary, let me shift gears here. In testimony before this committee last week, Ambassador Kennedy as I indicated to you earlier, confirmed that it is the policy of this Administration to pursue a non-proliferation policy that keeps a high and impenetrable wall between the military use of nuclear energy and the civilian use. In fact, I think that is fundamental to our non-proliferation policy, that civilian programs should not and must not overlap with military programs.

Yet we recently learned that despite this attitude, a reactor in the Washington State Public Power Supply, that is 60 to 70 percent complete, and is being paid for by ratepayers as a commercial power facility is presently being studied for conversion to produce materials that could be used for hydrogen bombs. Now, what is your reaction to this? Clearly that what we are seeing here is a public power facility that is contemplating selling electricity to offset the cost of manufacturing materials for warheads. I would like to get your reaction to that.

Mr. PERLE. Well, I cannot give you a final judgment because I have an open mind with respect to this proposal. It does seem to me that this situation is a unique one. Here is a case of—

Senator SASSER. I would concede that.

Mr. PERLE [continuing]. A very costly facility that was built with monies borrowed from the public. It experienced, as I recall, a devastating bankruptcy. There is a partially completed facility, the completion of which might provide a relatively efficient means of producing weapons-grade material that will be needed by the United States in its weapons program, and it could conceivably supply power as well.

I believe the principle that we are all at pains to reinforce at every opportunity is that we must not allow civilian energy programs to become a means by which weapons are acquired, in particular where weapons do not now exist, or are not in the possession of countries, many of which do possess power plants. But I think we should not, in broad principle, carry that principle to the point where we are prevented from doing things that exploit unique opportunities and may be efficient, but I have an open mind on this. I have not come to any conclusion. I have just begun to look at it.

Senator SASSER. Well, I have, Mr. Secretary, and it is my view that we are winking at our own policy of non-proliferation when we do that. In other words, we are using the same nuclear reactor to supply energy to fry bacon and eggs in the morning that produces materials that can be used to construct a nuclear bomb in the afternoon.

That is precisely the policy that we have advised other countries against, precisely the type of policy that we have tried to discourage, and that is the concurrent use of facilities for both commercial and military purposes. And I think that flies directly in the face of the nuclear non-proliferation policy of this country. And I think it sets a very dangerous precedent around the world. And I would hope that this Administration and those in high positions in this Administration such as yourself, who is listened to very carefully by those on the highest councils, would take a strong position against the concurrent use of a nuclear power facility for both civilian and military purposes.

Mr. PERLE. Thank you, both for asking me and for an opportunity to hear your view of this. I think we should recognize that we do draw a distinction between this country which possesses nuclear weapons and other countries that already possess nuclear weapons, and those countries that do not now have nuclear weapons. We have sought, I think for very good reason, to discourage additional countries from becoming nuclear powers. But we could, surely if we wished to, build a plant solely for the purpose of producing weapons grade material. We could build alongside a plant for the purpose solely of producing electric energy and no one would question whether either of those objectives was consistent with our policy toward nuclear non-proliferation. And if one were to combine in a single facility, but to do so overtly and not covertly, to say that this is our facility which is producing weapons grade material, and it, as a byproduct, is producing power. This would, I think, in principle be quite different from a country which did not have a weapon attempting to acquire the material for a weapon by diverting material from a commercial power facility for the purpose of putting a weapon together.

As I say, I do not have a final judgment on this, but I do think those are the kinds of considerations that one should keep in mind.

Senator SASSER. My time is up, Mr. Chairman. Thank you.

Chairman GLENN. Thank you, Senator Sasser. Senator Levin.

Senator LEVIN. Thank you, Mr. Chairman. I join in the welcome to our witnesses this morning. Mr. Secretary, some of have the impression that the Department of Defense is firmer and more tenacious in the pursuit of a non-proliferation policy than is the State Department. I am wondering what your feeling is on that?

Mr. PERLE. Well, I think as a general rule the Department of Defense is more tenacious when it comes to questions of security because we are not like the State Department burdened by the requirement to be diplomatic, and that is a great help in matters of this sort.

We are more willing to break a little crockery than our diplomatic colleagues, and I do not say this in an invidious way. I think it is the job of our colleagues in the State Department to protect our diplomatic interests.

Senator LEVIN. For whatever reason, then, you would share that feeling?

Mr. PERLE. I would.

Senator LEVIN. Does the Department of Defense make a recommendation to the President relative to that certification which he must make prior to any foreign military or economic assistance, that such assistance will reduce the risk that the recipient country will possess a nuclear device? Is your recommendation made to the President prior to that certification?

Mr. PERLE. It is.

Senator LEVIN. And was it your recommendation that he make that certification last time for Pakistan?

Mr. PERLE. It was.

Senator LEVIN. And do you know what your recommendation will be this time?

Mr. PERLE. Well, I do not, but at least I would not want to have to make that judgment here at this table. I do think, as I was suggesting earlier, that there is a very difficult question of judgment here as to whether terminating assistance to a beleaguered country—in this case one whose territory is being attacked from time to time by Soviet aircraft—whether withholding support from that country will discourage it from seeking support by way of a nuclear device or encourage it to do so. And that would be the essence of the dilemma that one would have to face up to.

Senator LEVIN. Without getting into the question of what your recommendation will be, am I to understand you have not yet reached a conclusion as to what your recommendation will be? I will not ask the substance of it. I will just ask you have you reached a conclusion on it?

Mr. PERLE. I have not since the last time on which we were consulted.

Senator LEVIN. Fair enough. Now, in making that recommendation, I would like to ask you how you define the term "nuclear device." I know before in answer to Senator Roth's question that you gave a definition of nuclear capability. In that definition you said that the country should have both the device and the capabil-

ity of delivering it and then that would determine whether or not that country has the capability.

The statute doesn't talk about nuclear capability, as I understand it. It talks about nuclear device. I would like to ask you how the Defense Department defines nuclear device, nuclear explosive device, to use the exact words, I believe, when it comes to your recommendation to the President. And my question is this: if you reached a conclusion, you, the Defense Department, that a country possessed all the components of a nuclear explosive device, but that they were not assembled, would you then recommend to the President that that country does or does not have a nuclear device?

And I am not asking you to focus on any particular country here. I am asking a general question.

Mr. PERLE. I understand. I do not mean to dodge this or any other issue, but it is a difficult question, and it is one that I want to think more about than I have thus far because there are other factors that would bear on this. For example, would the elements of this device be of such a quality that one could have high confidence that when assembled there would, in fact, exist a nuclear device or would it be a questionable proposition because they are crude components that might or might not when put together constitute a nuclear device.

I think there are nuances here that are important to a difficult judgment, and I just would not want to come to an immediate conclusion.

Senator LEVIN. Is it fair to say that the fact of nonassembly would not in and of itself lead you to the conclusion that they do not possess a nuclear device? That that fact by itself would not drive you to the conclusion of nonpossession?

Mr. PERLE. If I were making it, that would not be dispositive as far as I am concerned. One could have a whole inventory of unassembled devices. But it would depend again on the circumstances.

Senator LEVIN. All right. You have answered the question. It is not dispositive which is fair enough. The Chairman has asked you a question about the relationship between you and the State Department—and let me, by the way, congratulate our Chairman for his persistence and tenacity in this area. Without it, we would not be making the progress that we have made in this area, as frustrating as it sometimes seems. Without the Chairman here, we would not make the progress that we have in trying to keep the lid on to the extent that we have kept the lid on nuclear proliferation.

But my question is following up the Chairman's question in this area. I understand you and the State Department are trying to work out a memorandum of agreement between the two of you, and you were going to hopefully reach that within a week, and as I understand report back to the committee as to whether or not that was accomplished. If this question has not been asked, let me ask it now. If it is accomplished, will you submit to the Committee a copy of that interagency memorandum?

Mr. PERLE. Certainly.

Senator LEVIN. Thank you, Mr. Chairman.

Chairman GLENN. Good. Thank you, Senator Levin. Ambassador Kennedy told us last week the Administration recently reached a 30 year *ad referendum* nuclear agreement with Japan. I under-

stand that the centerpiece of this agreement is a U.S. commitment to give advance consent for Japan to retransfer and repossess plutonium that was produced from U.S.-origin nuclear material. In other words, the United States would give up its right to case-by-case reviews of these shipments.

The Wall Street Journal recently stated these shipments will involve over a period of time tons and tons of weapons grade plutonium. From a security standpoint, do you see these shipments as creating special risks such as invitation to terrorist attacks, and what do you see as DOD's role, if any, in dealing with these risks?

Mr. PERLE. Clearly, these shipments entail additional risks. We are talking here about the movement of a significant quantity of material from which weapons can, in principle, be made. These risks will have to be met by appropriate precautions. One of the issues that had been under discussion between the Departments of State and Defense throughout these proceedings, these negotiations, was the question of the Defense Department's role in reviewing the special security plans that would be associated with these movements.

Chairman GLENN. That was going to be my next question. Did DOD contribute to the Administration's policy, or this change of policy, of offering programmatic prior consents? Were you part of that negotiating process?

Mr. PERLE. We crashed the party, Senator, on a number of occasions.

Chairman GLENN. Define "crashed the party."

Mr. PERLE. We invited ourselves to meetings. We made a general nuisance of ourselves in memoranda and other ways, and ultimately I believe were successful in obtaining an arrangement.

Chairman GLENN. In other words, you had to take the initiative? You were not invited to participate in these until you insisted on coming; is that correct?

Mr. PERLE. Well, I think it was intermittent. This went on over quite a long period of time, and there were periods of relatively better and relatively worse working relations. But there were times when we had to invite ourselves.

Chairman GLENN. Were there meetings that took place that you found out about that you were not invited to that were involving some of these negotiations?

Mr. PERLE. Yes, there were indeed.

Chairman GLENN. What risk do you see in this? I see this—we have had instances in the past where there were vital nuclear shipments of weapons grade material. One case we heard where it was aboard a ship, and there was, I think, a lone sentry was the sole guard over this nuclear shipment. I do not know whether it was weapons grade. I do not recall now whether it was weapons grade uranium or plutonium, one or the other.

It would seem to me that things like that flowing around the world are just inviting terrorist attack. And we know that almost any group now can get someone that, if he had the fissile material, whether uranium or plutonium, could put together a credible bomb.

In this very room, we had two sessions back some years ago with a student, a university student, Mr. Roto, who had put together a

design for a nuclear weapon that the weapons experts, the designers, told us would go off. Now when information is that common at even university level from open literature, all that is needed for terrorist groups to have a very credible threat is just the possession, it seems to me, of plutonium or uranium up to weapons grade.

So I am very concerned. It seems to me we are giving advance commitments 30 years down the road, giving up our right for a case-by-case review of what the shipment procedures and guarding will be. It gives me great concern on this, and apparently DOD—which would have the prime role as I would see it in making certain that security was maintained—was not even a prime party, at least, of this negotiation.

Mr. PERLE. Well, Senator, this situation has arisen. It arose with respect to a very sizable shipment, as you indicate, the discussions of which had gone back quite a long time.

The arrangements that had been discussed between the two governments were in my view virtually complete when we learned about them, and when we began to participate in some of the meetings concerning them. The negotiations were rather far along at that point, and the arrangements that it appeared were headed toward agreement would have entailed, in our judgment, a dangerously vulnerable shipment of a very large quantity of plutonium over a very long distance.

We intervened in this discussion, and despite great difficulty were ultimately able to press a security arrangement that we believed was adequate and did meet our requirements.

Chairman GLENN. This was a specific event in the past you are talking about?

Mr. PERLE. This was a specific event.

Chairman GLENN. Okay. How did you hear about that?

Mr. PERLE. But it took the intervention of the White House to bring this story to a happy ending. Because, had it not been for the intervention of the White House and Don Fortier, to whom I referred earlier, we might have seen that shipment take place without proper safeguards.

Senator GLENN. How did you hear about the shipment.

Mr. PERLE. Well, I am afraid that much of the negotiation between the United States and Japan had taken place without being reported to us. This is the kind of problem that I have reference to in the letter that I sent to Senator Goldwater and others a while back, the letter that was referred to as poppycock.

Senator GLENN. And that past experience was the reason we put the requirement on for the flow of information from the State Department to DOD, a requirement which you indicate is just now the subject of a memorandum of understanding that we hope gets worked out this week.

Mr. PERLE. That is right.

Senator GLENN. Under the Anti-Terrorism Act of 1986, Congress required the Secretary of Defense and other agencies to "each" review the adequacy of the physical security standards currently applicable with respect to shipment and storage outside the United States of plutonium and nuclear weapons grade material. That report was due to us on February 27. We have not had that yet. When can we expect to get that report?

Mr. PERLE. I would hope we would have that soon. We have completed a draft. It is within the Department of Defense now, enroute to the Secretary of Defense for his approval.

Chairman GLENN. Can you define "soon" a little better?

Mr. PERLE. I would hope in the next several days, and I apologize for its tardiness.

Chairman GLENN. Do you think we need any additional legislative action at this end of the avenue to make certain that you have the ability to monitor and take care of national security needs? From the Pentagon view of things, do we need any additional legislation?

Mr. PERLE. Senator, the process by which the Administration adopts positions with respect to legislation includes interagency collaboration under the general direction of OMB and quite often the NSC as well. And I have not had a chance to discuss this with my National Security Council colleagues.

I can say, in general, that I believe that the Department of Defense has a major contribution to make to the activities of the government in this area. I believe that by nature—by the nature of its activities and its mandate with respect to national security and the physical defense of this country and our allies—it will always be predisposed to take the issue of proliferation seriously. Therefore, the broadest possible involvement of the Department of Defense in these matters would, I believe, be beneficial to policy-making within the Executive Branch.

Chairman GLENN. Back in 1981, the President seemed to question publicly whether safeguards by the IAEA, International Atomic Energy Agency, could adequately signal the illicit use of controlled materials or technology, and that is one that has concerned all of us for a long, long time. The President went ahead to say: "How many countries do we know that have signed a non-proliferation treaty that very possibly are going ahead with nuclear weapons? It is, again, something that does not lend itself to verification."

We have all thought that IAEA was probably a thin red line. We call them safeguards, but it really is an information gathering system. It does not guarantee safety nor does it guard, either one. Things brings up verification. What do we know and when do we know it? You and I have had similar concerns about verification going back, way back, to SALT II days, and I still have them, and would you care to comment on what we can verify about what is flowing around the world?

Mr. PERLE. Well, I believe we cannot depend on the IAEA to provide the information necessary to make those judgments. I think they have an important role to play, but they cannot do it by themselves, and if we did not have other sources of intelligence, I would be very uneasy about how much we would know.

Chairman GLENN. I think this is the first hearing you have attended since quite a number of events here, Reykjavik, so on, going back somewhere, going back some time. I would like to ask a couple of questions in these areas because the whole thing involves what we are doing with regard to nuclear weapons and this illicit flow of potential nuclear weapons, if you will.

Under the Non-Proliferation Treaty, the United States is committed, "to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament."

To the extent that this article creates any nuclear disarmament commitments among the superpowers, how would you rate our record of accomplishments in this Administration so far?

Mr. PERLE. Well, I think we are doing very well, and I expect that the period of the next 8 to 10 months will be critical. It is a period in which I hope that we will see a long-term investment begin to produce a cash flow in terms of significant stabilizing and verifiable arms control agreements between the United States and the Soviet Union.

And if we are successful, and I hope we will be—I believe we will be—it will be not because of anything that has happened in the last days or weeks, but because of a sustained 6-year effort to impress upon the Soviets our willingness to conclude agreements. And at the same time, to persuade them that in the absence of the kind of agreements that will enhance our security, we are not about to conclude agreements that do not enhance our security. And one has to persuade them of both propositions.

Chairman GLENN. Well, just last weekend, Secretary Gorbachev, of course, outlined a proposal to eliminate medium range nuclear missiles in Europe within 5 years, and he dropped demands for a more comprehensive arms control package. That was a new wrinkle. How imminent is such an agreement?

Mr. PERLE. Well, I think we have a way to go yet in two respects. One is there are some outstanding issues not yet resolved, and some of them are quite important issues. And secondly, even with respect to those issues where we do not anticipate problems, the drafting of very precise treaty language that will sustain the obligations of the parties over a long period of time is difficult, and it takes time to do that. And where we have failed to do it in the past, we have come to regret those failures since there have been disputes and differences over what agreements meant and how they should be interpreted.

So I think we have to take the time. We have got to resolve the unsettled issues, and I think we are talking about a period of some months. But, if I might add this, the conclusion of this treaty, if we can reach it, and I think the prospects are good that we can—

Chairman GLENN. What remains to be resolved? Can you give us some of the details being worked on?

Mr. PERLE. Yes. There is the question of shorter range systems, some of which could substitute for the weapons that would be eliminated under this agreement. There is the question of where the one hundred warheads on each side would be deployed, and the circumstances under which the reductions would take place. There is the timing and phasing.

Chairman GLENN. How do you verify such an agreement? This goes back to our mutual concern on verification.

Mr. PERLE. Well, on that, let me say, that we would significantly enhance our ability to verify this agreement if we could persuade the Soviets—as we have tried to do—to eliminate the last one hundred warheads that each side would be permitted under the propos-

al that is now being accepted by the Soviet side. Thirty-three missiles on the Soviet side is all that they would be entitled to under the agreement now being discussed, but those 33 missiles would justify, I am quite sure the Soviets will argue, a test program, a maintenance program, maintenance facilities, troop training, and all of the other evidence that make up the infrastructure that could, in principle, support a deployment far larger than 33 SS-20 missiles.

And, for that reason, if we could get the Soviets to agree to give up those last 100 warheads on 33 missiles, and I think we should, of course, give up the last 100 warheads we would have, then any testing, any training, any maintenance activity would constitute a clear violation. And it would be vastly more verifiable.

Chairman GLENN. How do we do this without involving other nuclear powers? If the press reports are correct, it was your proposal that was put forward at Reykjavik. That proposal was floated, and that was what became the centerpiece of Reykjavik. One of the things that concerned me there was, let's say the Soviets had accepted that for 5 years, accepted the total nuclear weapons build-down, if you will, or scaling down. At the end of 10 years, unless we involved other nuclear powers, we would, in effect, have left the People's Republic of China as the world's preeminent nuclear power—delivery capacity, weapons, number. They would be king of the hill nuke-wise.

It seems to me that all these proposals have to swing a much broader loop than just ourselves and the Soviet Union if we are getting down to talking in 10's or 30, or even under 100. And I just don't see this coming to fruition unless we are swinging a much broader loop and including other nuclear powers. The reason I bring it into this hearing is because at the same time it involves preventing the spread of nuclear weapons to other countries. Unless we can prevent that spread while we get all the existing nuclear powers together to scale this down, then just ourselves and the Soviet Union getting together with whatever agreement, it seems to me, isn't worth the paper it is written on because all we do is make somebody else king of the nuclear stockpile.

Mr. PERLE. I think that if we were so foolish as to reduce the level of nuclear weapons to the point where even a small nuclear power would become a super power, that shortly would be the result. We did not propose at Reykjavik or at any other time that we eliminate all nuclear weapons, or that we go as far as some press accounts have suggested, and as far as the Soviets seem to be suggesting.

The American proposal at Reykjavik was limited to removing from the inventory of both sides over a 10 year period the ballistic missiles of both sides, but not the aircraft, not the sea-based cruise missiles, not the other weapons that would be vital to the makings of an American deterrent, and that would give us a capability that we would surely need if other countries retain nuclear weapons.

So we would have had several thousand nuclear weapons after the President's proposal in Reykjavik had been accepted. Now, the current agreement, of course, affects only intermediate nuclear missiles, and so while it reduces them to a very small number, zero

would be far better. We still have a great many other weapons both in Europe and the United States and so do the Soviets.

Chairman GLENN. With the advantage now of several months of hindsight since Reykjavik, do you view it as a missed opportunity or a building block that led the way into some of the current INF proposals. What is the relationship? If you were doing Reykjavik again, would you do it the same way?

Mr. PERLE. Yes, I think I would indeed do it the same way, although I would be far more conscious of how easily an event like that is misunderstood. And I think I would have organized the flow of information better because there was a great deal of confusion after Reykjavik as to what had been done there. But I think two very important things were achieved in that meeting.

First, we agreed on major elements, not all of the critical elements, but major elements of a reduction in strategic weapons by about 50 percent, down to 6,000 warheads on each side, and 1,600 strategic nuclear delivery vehicles on each side. That is not final yet. It still is under negotiation in Geneva, but you do not turn the clock back on a proposal like that. So having achieved that, I think we will go forward on that basis.

And second, General Secretary Gorbachev has now consented to, separate from the other issues, the elimination of all intermediate nuclear missiles, which the Soviets have over 1,400 warheads on those missiles, and we have now, I guess, 300, something like that. That agreement has its origins in Reykjavik as well. So those things are moving forward. Now, in the long run, I expect that Reykjavik will be regarded as the turning point that sent us on the course toward the agreements that I hope we will be reaching in the next several months.

Chairman GLENN. How do you tie in conventional weaponry because that has been another concern of mine? If we had gone ahead with doing away with the massive numbers of nuclear weapons we are talking about, albeit on both sides, the more we go down that track, the more we leave ourselves open, then, of course, to the Soviet superiority in conventional weaponry. Now, that has not really been addressed.

And the recent INF proposals also have not really addressed the conventional weaponry aspect of this. The Soviets have had 21,000, 22,000 tanks in the Warsaw Pact nations on their side of the border. We have grand total within NATO, I think the current figure is what, somewhere around 6,700 or under 7,000, or right around 7,000. They have a three to one advantage in tanks. And as a last gasp weapon on our side, we have looked at the nuclear weaponry as a big stick that could respond to a flooding of those tanks and the Soviets through the Folda gap. Now we still have the battlefield weapons. Those have not come into consideration, I gather. We are just starting with INF. But it would seem to me that these overall balances with conventional weaponry, MBFR talks, have to be activated and become far more productive than they are if we are to go down this track of nuclear reductions. What would your response be to that?

Mr. PERLE. Well, clearly we need and have always needed a better conventional balance. And that would be true under any circumstances of the nuclear relationship. I am unilaterally opposed

to the denuclearization of Europe. We can not hope to maintain a stable deterrent force in Europe without a nuclear component, not least of all because the Soviets have nuclear weapons in Europe, and they have them in large numbers. They will continue to have nuclear weapons in Europe after the NINF agreement is reached, and we must also maintain a credible nuclear capability in Europe. Without that, we would so gravely weaken deterrence that the prospects of a conflict would be increased.

At the same time, we must improve our conventional forces in order to raise that nuclear threshold and to give the NATO alliance the kind of tactical flexibility it must have so we are not in a situation where we are forced to rely immediately and early on a nuclear weapon in order to deal with a conventional attack that we should be able to cope with by conventional means.

Chairman GLENN. Okay. But didn't the President say at one time in reporting on this, didn't he say that what he had proposed was the elimination of all nuclear weapons within 10 years?

Mr. PERLE. No, this is one of the points—

Chairman GLENN. He did not?

Mr. PERLE [continuing]. Over which there is a great deal of confusion, and I really welcome the opportunity to clarify it. The American proposal put forward at Reykjavik was that in the second 5 years of the 10 year period during which we would adhere to the ABM treaty, the two sides would go beyond the 50 percent reductions agreed to the night before, as it happened, Saturday night in Reykjavik, and eliminate all remaining ballistic missiles on both sides.

And Mr. Gorbachev counterproposed that we eliminate not all ballistic missiles in the second 5 years but all strategic arms, and the President rejected that proposal. So there were two issues at Reykjavik that prevented agreement from going forward, two main issues. There were a great many other issues. One was SDI, and the other one was this dispute over whether to eliminate ballistic missiles or to go beyond that and also eliminate bombers and cruise missiles. And we were not prepared to de-nuclearize our defenses, first, because we could not be confident the Russians would do the same. There is no way to verify that. And second, because they have very considerable conventional superiority.

Chairman GLENN. Well, I am glad to have that corrected, and maybe some of the people at the press table—I won't ask them to testify this morning—but it has been my impression, at least it was reported in the press that the President in his remarks after this made the flat statement that what he had proposed was the elimination of all nuclear weapons within 10 years. And maybe he did not speak quite in harmony with what had happened at Reykjavik. I do not know. But do you recall those press reports?

Mr. PERLE. I do recall the press reports, but—

Chairman GLENN. And you are saying they were wrong as to what your recollection is of what happened at Reykjavik. Now maybe the President's recollection of what happened up there was a little different from yours?

Mr. PERLE. Well, I was instructed by the President at Reykjavik to put in writing a revision of the Soviet proposal which was, in turn, a revision of ours. And, together with a colleague from the

National Security Council, I did that. We drafted an American, the last American, proposal to be considered Reykjavik. So I am absolutely certain what was in the American proposal. And it did not call for the elimination of all nuclear weapons or all strategic arms, as Mr. Gorbachev had proposed. It did call for the elimination by the end of the 10-year period of all ballistic missiles. And the reason for that is that the ballistic missiles, in our view, are the weapons uniquely capable of the first strike, and therefore, the most dangerous and destabilizing weapons in the arsenal of either side.

And it seemed to us that the elimination of this category of weapons would add immeasurably the stability of the strategic balance, and both of us would be free to constitute deterrent forces based on aircraft and cruise missiles on aircraft. They have the obvious virtue of being recallable in the event that an accident or a mistake or a miscalculation is made.

So for a variety of reasons, it seemed to us that eliminating offensive ballistic missiles would improve the security of both sides. Eliminating all nuclear weapons would place us in grave jeopardy because frankly I do not know anyone who would turn over to the Soviet Union the last nuclear weapon in the arsenal of the United States on the strength of a promise that the Soviet side was turning over the last nuclear weapon in its arsenal.

And as you know better than most, we couldn't possibly verify that the last nuclear weapon was being turned over, and if the side that claimed to do so did not, in fact, do so, it would have a nuclear monopoly. Now, no one in his right mind would assume those awesome risks.

Chairman GLENN. The greater the cuts we are proposing with the Soviet Union, the more we have to be aware of getting other nuclear powers involved with this thing because as we get down to their level, then they become the same kind of threat the Soviet Union has been. Some years ago, I was in China, People's Republic of China. We had a meeting with Deng Xiaoping, and I asked him about this. Would they be willing to be part of a discussion on the reduction of nuclear weapons. And he responded just in that way. He said when you and the Soviet Union get your stockpiles down to about our level, then I am sure we would be quite willing to be party to whatever it was. Meanwhile, they were going to go ahead and build, and I did not blame him for that response particularly. But it indicates to me they would not be unwilling at least to talk about this in the future.

Back to verification again because that bugs me a little. I am sure that you would be the last person in this room along with me to just trust the Soviet Union to live up completely to whatever the agreement was. Verification was one of our hangups on SALT II, as to whether we could monitor what was going on. And it has continued to be a concern in all the on going arms negotiations.

Do you see any breakthrough there? I am not even certain that even on-site inspections—where do you look in a place the size of the Soviet Union, number one. What do you see as any breakthroughs in verification that will let us with confidence say, yes, the Soviets are going to live up to whatever we agree to.

Mr. PERLE. No. I am rather discouraged as a matter of fact. And I believe if one looks back over the history of the claims that were made for the verifiability of various agreements, it is clear that those claims entailed significant over-statements. In particular, Senator, what tended to be ignored when talking rather cavalierly about what we could monitor and what we could verify was the fact that intelligence data is almost always ambiguous. It does not come to us in black and white.

The analysis of that data is almost always controversial. Frequently, the intelligence information upon which these judgments depend cannot be disclosed publicly without losing the very source that is feeding your judgments. And when you do have unquestionable evidence of a violation, in the final analysis, there is nothing you can do about it except ask the other side to be so kind as to desist. And that has not proven to be very effective.

There is no problem of monitoring, of verifying the radar at Krasnoyarsk, which is half the size of the building we are in. We see it. We know what it is. We know what it is not. But we have been unable to persuade the Soviets to take it down, and I do not think there is any realistic possibility that they are going to take it down. So the whole sequence of events have to occur. You have to have, first of all, a treaty that is so clear that there is no dispute over what the obligations are. Then you have to observe the behavior of the other party in relation to those obligations. Then you have to come to a clear, unambiguous and agreed judgment as to what the other side is doing. And then you have to be able to make that case, and frequently you have to be able to make it publicly.

And, after all of that, there still is nothing you can do to—there is no court you can go to. There is no judge who can render a verdict. You are at the mercy of the willingness of the other side to respond to your concerns.

Chairman GLENN. In the William F. Buckley column yesterday—I am sure you have read that or had it pointed out to you in the Washington Post yesterday, I think it was.

Mr. PERLE. I was in New York yesterday and missed the Washington Post.

Chairman GLENN. Well, you are quoted. Part of his article says, and I read from this, "Now Richard Perle, Assistant Secretary of Sanity in Disarmament Conferences, is quoted as calling Gorbachev's offer 'a constructive step that should open the way to concluding the remaining issues leading ultimately to a treaty'. One needs to know Perle to understand the caution impregnated into this statement. A 'step' is all that he calls it, and he uses the subjunctive 'should' which is to be distinguished from 'will'. The easiest way to collapse any synthetic optimism based on Perle's initial statement is to remind ourselves that the Soviet offer is meaningless and without effective verification, and that Perle said not very long ago that 'verification isn't difficult, it isn't even very difficult, it is impossible'."

Is that an accurate quote?

Mr. PERLE. Well, that is a statement that clearly referred to the elimination of all nuclear weapons. It was not meant to refer to the kind of partial agreement that is envisioned here. So I think that is out of context, much as I admire Bill Buckley.

Chairman GLENN. Okay. I have thought for a long time that we need a new basis on which to negotiate arms control, nuclear arms control. We cannot possibly accurately count the 10,000, 12,000, 14,000 warheads the Soviets have, and we can't say for certain what is even on an individual booster.

We are getting even past the point where we require extensive testing which we have depended upon, along with the telemetry, the radio signals coming from that, to give us an idea of what the weaponry was on board. And it seems to me we have to fall back sometime and maybe consider a new way of doing this. What we are talking about is fissile material out there in certain quantities that each side has. We package it one way in so many thousand packages. They package it in another way. Big bang, little bangs, battlefield, whatever.

It has seemed to me that maybe it would be a new idea, and be easier to verify—that's the basis of this—if we went to something like this where we said what we want is a measure of all the fissile material they have and that we have. This is not impossible to do because over a 10- or 12-year period, we have to bring our nuclear weapons back off the sites where they are deployed and put things like tritium back in that have a half-life of 12 years, or something like that. And it means then that all your fissile material has to come back through the several choke points where that material would either be originally fabricated or reprocessed, and so over a period of maybe 15 years, if given access to those points which would probably be maybe four, five, six on each side, we could monitor what went through there.

Then, our arms control negotiations nuke-wise would be to say, okay, we want to cut down the overall total amount of fissile material, and this year we want to reduce it 10 percent, next year 5 percent, next year 20, whatever the agreed upon amount would be, and we could monitor that. We could verify it if we had access to those small number of choke points on each side.

Now, I do not know whether an approach like that has been seriously considered, but I have thought for a long time that our ability to verify by our monitoring techniques that we have now is insufficient with regard to nuclear weapons and the proliferation of them. When we get to cruise missiles, it can be either conventional or nuclear. We are rapidly reaching the point where verification—I would agree with you—does perhaps maybe almost become impossible, and I think it lessens the likelihood of an arms control agreement when that is the case.

Now I do not know whether this is something that has ever even been thought of or considered, but I think we need a new approach, something like this, where you come back to a choke point so you can monitor what their capability is with the monitoring of a few points rather than going out here and saying we are going to monitor ten or 12,000 warheads and where they are.

That is never going to be adequate. So this just might be a thought to throw out for your consideration.

Mr. PERLE. It is an interesting idea and one that we ought to take a look at.

Chairman GLENN. We have to come back to a manageable number of choke points on their production system and a managea-

ble number of choke points to be monitored on our system. Then it seems to me we have a basis for maybe going ahead, and you have a new arms control possibility then. We reduce such and such a percent of fissile material going through each year, and over a period of 15 years we get control of it. It might be something you might want to think about. We could talk privately about this later on.

Mr. PERLE. We will take a look at that.

Chairman GLENN. Staff, anybody else, any questions?

[No response.]

Chairman GLENN. Mr. Perle, we may have followup questions. We will look forward to two things. Let's see. One is the report that we were supposed to get February 27. The other is the report on the memorandum of understanding. We appreciate your being here. The hearing will adjourn subject to call of the Chair.

Mr. PERLE. Thank you, Mr. Chairman.

[Whereupon, at 11:25 a.m., the committee was adjourned, subject to the call of the Chair.]

ADDITIONAL MATERIAL SUBMITTED FOR THE RECORD

Testimony of

Leonard S. Spector

Senior Associate

Carnegie Endowment for International Peace

Before the

Governmental Affairs Committee

of the United States Senate

February 24, 1987

It is an honor for me to testify before this Committee on the current trends in the field on nuclear proliferation. Unfortunately, recent developments are profoundly troubling.

New information on the Israeli nuclear program revealed that the scale of proliferation in that country has been far greater than previously recognized. Details concerning L'bva's attempt to purchase nuclear weapons in 1981 and newly unearthed evidence that the Shah of Iran had launched a nuclear-weapons research program -- which presumably has been inherited by the Khomeini government -- underscore the risk of proliferation by these nations.

The threat of a nuclear arms race between India and Pakistan has also intensified, amidst increasing evidence

that Pakistan has manufactured all of the components necessary to produce nuclear weapons for the first time.

Worsening racial strife in South Africa, meanwhile, may lead Pretoria to reconsider its policy against nuclear testing and raises the fearful possibility that nuclear-weapons or nuclear-weapons material might fall in to the hands of an extremist faction -- of the right or the left -- whose nuclear policies might prove even more dangerous than those of current leaders. This problem is also present in Pakistan.

Only in Latin America are trends more favorable as Argentina and Brazil took steps to dampen their long-standing nuclear rivalry -- although even in these countries the trends were by no means entirely positive.

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Let me review a number of these points in greater depth beginning with Israel. As you know, in early October, the London Sunday Times ran its expose of the Israeli nuclear program based on the testimony and photos of Mordechai Vanunu, the former Israeli nuclear technician, who worked at Israel's classified Dimona nuclear complex.[1]

The key points in the expose were that Israel probably possesses between 100 and 200 nuclear weapons -- not the

twenty-five or so usually estimated -- and that in the early 1980s Israel began producing some form of advanced nuclear weapon that relies on the principle of the H-bomb, that is, on thermonuclear fusion.

The finding concerning the size of the Israeli nuclear arsenal was based on the amount of nuclear weapons material -- plutonium -- that Vanunu said Israel has been able to produce for the past twenty years and on an assessment by former U.S. nuclear-weapons designer Theodore B. Taylor that Israel apparently required far less plutonium per weapon than standard estimates specify. Taylor based his conclusion on a photo of a model of an Israeli atom bomb taken by Vanunu.

Some lingering doubts remain as to the authenticity of Vanunu's testimony and photos, but in general they are being treated as credible. Frank Barnaby, the former director of the Stockholm International Peace Research Institute interviewed Vanunu at length and pronounced him "totally convincing," and the photos are apparently being viewed as genuine by U.S. intelligence sources. Of course, Israel's detention of Vanunu also lends credibility to his evidence. The Sunday Times estimate of the size of the Israeli nuclear arsenal, I would add, is consistent with estimates by the Aerospace Daily and by Middle East expert Anthony Cordesman, which first appeared in the summer of 1985.[2]

I am attempting to double check at least one of Vanunu's photos -- the exterior shot of the Dimona campus -- by comparing it to a satellite photo of Dimona obtained by Space Media Network of Stockholm, using the SPOT remote sensing satellite. This analysis is still in progress.

Let me direct your attention to what, according to the Sunday Times, is a photo taken by Vanunu of a model of a current Israeli atomic weapon. In the first photo, which looks a bit like an avacado with the top half removed, the black material is thought to represent high-explosives. This would implode when the weapon is detonated and instantaneously crush the smaller, shiny sphere, triggering the nuclear explosion.

In the next photo, the shiny sphere has been taken apart -- unscrewed. The two parts are visible in the left rear of the picture. In front of them is a metal sphere, which apparently represents the plutonium core of the device.

When the device is detonated, the shiny sphere, which is apparently a tamper/reflector made of beryllium, would crash into the plutonium and compress it to a "supercritical," explosive state. The beryllium would also reflect back into the plutonium some of the neutrons released in the process, enhancing the weapon's yield.

Assuming that this is a full scale model, the nuclear core of the weapon is about the size of a medium navel orange. Although the model does not show any of the electronics or the external casing of the device, and although the high explosive part of the device is not shown in any detail, what is shown suggests that the components for the weapon could be assembled quite rapidly. This provides some understanding of what it means for a country to be a "screwdriver turn away" from nuclear weapons, a concept that may be very relevant in assessing the status of the Pakistani nuclear program, which I will come to shortly.

Although this is a model of a straightforward atomic weapon of the type dropped on Nagasaki, as I mentioned earlier, Vanunu stated that by 1982 Israel had completed the construction of a unit at Dimona for producing lithium deuteride, used in fusion weapons. According to Theodore Taylor, Israel has probably not produced actual H-bombs which, it is generally believed, would have required a series of nuclear-weapon tests. Rather, I understand, Israel apparently has built some form of enhanced atomic bomb. Such weapons, Taylor stated, could have yields in the range of 100 to 200 kilotons, many times that of the atomic bombs used in World War II. For reference, some U.S. strategic warheads such as those on the Trident I C-4 submarine-launched missile, are of this size.

As a separate matter from the Vanunu revelations, according to Reagan administration sources, Israel deployed the nuclear-capable Jericho II missile during the early 1980s. The missile is supposed to have a payload of 750 kilograms and a range of 400 miles, although some administration sources have hinted that it can reach the southernmost parts of the Soviet Union.

I have not been able to confirm whether some of these missiles actually carry nuclear warheads, however, as stated in the report in June 1985 by the Aerospace Daily, which first declared that Israel had deployed these new missiles. [3]

One additional piece of confirmatory evidence concerning the weapons' deployment is that the missile was apparently test-fired in 1977, at a time when Israel was trying to interest Iran in contributing to the missile's development. The episode is detailed in a New York Times article of April 1986 based on an interview with an Iranian general who witnessed the test and on memoranda of conversations between senior Israeli and Iranian officials obtained by Iranian students from the Israeli trade mission in Tehran after the fall of the Shah.[4]

In sum, it appears that during the past four or five years Israel greatly enhanced its nuclear capabilities.

Elsewhere in the Middle East, Iraq, Iran, and Libya remain many years away from possibly being able to manufacture nuclear weapons indigenously, as noted on the chart I have prepared.

There is evidence, however, that two of these nations have attempted to purchase nuclear weapons or nuclear weapons material on the black market. I should stress that I do not believe that such commodities can be obtained in this way. Last year, however, I reported that in 1982 senior Iraqi military officers entered into negotiations with an Italian arms smuggling ring to purchase weapons-usable plutonium, although the deal came to naught when the Italians could not produce any samples.[5]

This year I have been able to obtain new details on negotiations in 1981 between top Libyan nuclear officials and former CIA-agent Edwin P. Wilson for the sale of a nuclear-weapons production plant and associated facilities to Tripoli. Eventually over 200 nuclear weapons were to be provided ranging in yield from 150 kilotons to 1 megaton.

This proposal also was a hoax from the start, but the seniority of the Libvans involved -- who included the chief

of their Atomic Energy Commission, according to Wilson and to another participant, John Heath -- and the fact that they met on several occasions with the would-be sellers to discuss the deal provides strong evidence of the Libyans' keen interest in acquiring nuclear arms at the time. The documents, I would add, also provide a unique insight into the substance of one of the most grandiose "black-market" nuclear deals of recent years.

Let me stress that Edwin Wilson claims that at the time of the negotiations he was working with the CIA and that he was participating in the affair so that he could report back on Libyan nuclear activities. He also claims that he was responsible for killing the deal. John Heath, an associate who was present at the meetings with the Libyans, and who testified about the sessions under oath at one of Wilson's trials, however, disputes this, as does former Assistant U.S. Attorney Lawrence Barcella, who prosecuted Wilson. Both claim Wilson participated in the deal for personal gain and that the deal collapsed because the Libyans saw through it. I have relied on Peter Maas' book, Manhunt, and Joseph Goulden's history of the affair in The Death Merchant, which credit these latter sources, but I would stress that the question of Wilson's role remains in dispute.[6] The issue, however, is not directly germane to the points that I

have been stressing, namely that Libya was interested in obtaining nuclear arms and that the documents I have unearthed are indeed the ones that were discussed. There is no dispute on this, and Wilson has authenticated the documents.

In April 1981, Wilson sent the documents to Barcella to demonstrate that a nuclear deal with Libya was afoot; Wilson stated that he would help prevent the deal from going through if Barcella would reduce the charges against him. Barcella, after having the CIA review the documents and learning that they were a hoax, refused. I obtained the documents last summer from the Justice Department under the Freedom of Information Act.

The documents were drafted by Armand Donnay, a Belgian arms dealer who worked with Wilson from time to time. Donnay's poor English accounts for the grammatical and spelling errors. As can be seen from the second page, the nuclear-weapons deal was to be camouflaged by a "decoy" contract for a small research reactor and two other training units, a calutron and a synchrotron. The Libyans were said to have been given a stack of documents two-feet high; I have only obtained about two inches' worth and have culled the most interesting items. The remainder contain "boilerplate" legal language concerning the non-weapon parts of the

proposal and some two hundred pages of what appear to be xeroxes from a technical manual for a nuclear research reactor.

The nuclear weapons proposal, known as the "Mickey Project", specified that by September 1987, Donnay and Wilson would provide Libya "nuclear active forces for 38.500 kiloton [sic] of power." Included in this was the sale of a factory for producing weapons-grade material, some of which would also be supplied via "export black agreements [sic]" and a nuclear warhead production facility to be built in a converted factory in the Tripoli area. Training for troops in the use and handling of nuclear weapons would also be offered. The would-be sellers were asking for \$200 million in return.

The planned output from the warhead factory, given in appendices 4 and 5 of the proposal, was staggering. Between July 1986 and May 1987, the facility would produce 8 1-megaton and 25 half-megaton aircraft-deliverable bombs. Each of these would be vastly more powerful than the Hiroshima bomb, which had a yield of only .012 megatons, or 12 kilotons (a megaton is equivalent to 1 million tons of TNT; a kiloton is equivalent to 1,000 tons of TNT). In addition, the factory would turn out 35 250-kiloton warheads for Libya's Soviet-supplied, short-range (40 to 150 kilometer) Frog-7 missiles, and 155 100-kiloton warheads for Tripoli's Soviet-supplied Frog-3 tactical missiles (with a range

of 10 to 40 kilometers). Several units in each category would be used in tests.

The hoax is apparent when you realize how hopelessly difficult it would have been to achieve any of the deal's principal objectives: obtaining black market nuclear-weapon material; obtaining European power-reactor fuel so that its plutonium could be extracted; and designing and building high-yield nuclear weapons -- including, it seems, hydrogen bombs -- and mating them to existing munitions and rockets. In effect, Wilson and his colleagues were promising to provide Khadafi a nuclear arsenal in five years that would have been far more advanced than the one Israel has reportedly built after nearly thirty years of effort.

*

Let me turn now from the Middle East to South Asia, to underscore once again the disturbing trends of the past year.

It appears that even as we were learning about Israel's dangerous progress up the nuclear ladder, another nation -- Pakistan -- may have crossed the nuclear-weapons threshold for the first time. From what has come out publicly, it appears that Pakistan now has the capability to build all of the

components for its first nuclear device. I am basing my assessment on recent press stories, and on echoes I have heard from administration sources, and on the hint contained in a recent speech by the outgoing U.S. ambassador to Pakistan, Deane Hinton. [7]

Also disturbing is that senior Pakistani political figures have begun openly advocating the development of a nuclear deterrent -- that is, some in Pakistan want to take the bomb out of the basement, a step that would accelerate a nuclear arms race with India. In late 1985, for example, the secretary of Prime Minister Muhammad Khan Junejo's Pakistan Muslim League party declared: "We have learned to purify uranium. Now we should, with the help of God, produce an explosion." [8]

In India, meanwhile, the Gandhi government obtained for the first time weapons-usable plutonium totally free from any external non-proliferation controls. To do this it had to transport spent fuel from its Madras I nuclear power reactor over a thousand miles to a plutonium extraction plant near Bombay -- at a time when it had ample plutonium supplies for its civilian nuclear program, but plutonium whose use was restricted to peaceful purposes by various international agreements.

The recent war scare between India and Pakistan is a vivid reminder of the underlying hostility in the region and of its volatility. If both countries will now be able to deploy nuclear weapons on short notice, the dangers from a potential conflict will have been greatly heightened. Never before, I would point out, have nuclear arms been available to two nations sharing a common border that have fought major wars and between which tensions continue to run high.

With respect to South Africa, I believe that the likelihood that Pretoria may test a nuclear device or declare itself a nuclear-weapon state is increasing. Thought to possess a nuclear-weapons capability since 1980 or 1981, the Botha government has refrained from these steps largely to avoid damaging its relations with the West. With these ties under increasing stress, however, the added diplomatic costs of a test -- which would give a major boost to white morale and demonstrate resolve against external pressures for racial change -- could now seem acceptable to the Botha government.

Secondly, as domestic violence escalates, the danger of a terrorist attack against South African nuclear plants is also increasing. Pretoria's sensitive Valindaba uranium enrichment plants, the key to its nuclear-weapons capability, would be inviting targets. In 1982, the African National Congress caused severe damage by setting off four bombs at the Koeberg nuclear

power reactor construction site, and in November 1985 three rockets hit a second South African technological showpiece, the strategic Sasol 2 complex for producing oil from coal.

Finally, the risk of a coup by neo-fascist white extremists or of a seizure of power by a revolutionary black faction deeply alienated from the West -- and the possibility of nuclear materials or weapons being seized by subnational groups during a period of internal turmoil -- will add considerably to the dangers already posed by the South African nuclear program .

This nuclear dimension makes an orderly transition to power-sharing and majority rule in South Africa all the more urgent.

*

In Latin America, as I mentioned earlier, trends are more positive. But both Argentina and Brazil continue to build nuclear installations that could provide access to nuclear weapons material not subject to international non-proliferation controls. The situation in Brazil appears to bear close watching. Here elements of the military remain powerful and some have openly advocated the development of a nuclear-weapons capability, if not nuclear weapons themselves. The disclosure that a nuclear test site may have been under construction at a remote military base in the Amazon jungle has created additional cause for concern.

This concludes my testimony this morning. I would be pleased to answer any questions the Committee may have.

Footnotes

[1] "Revealed: The Secrets of Israel's Nuclear Arsenal," Sunday Times (London), October 5, 1986.

[2] "Israel Said to Deploy Jericho Missile," Aerospace Daily, May 1, 1985; "Nuclear Efforts of Israel, Pakistan Prompt Meeting of U.S. Group," Aerospace Daily, May 17, 1985; NBC "Nightly News," July 30, 1985.

[3] "Israel Said to Deploy Jericho Missile," Aerospace Daily, May 1, 1985; "Nuclear Efforts of Israel, Pakistan Prompt Meeting of U.S. Group," Aerospace Daily, May 17, 1985.

[4] Elaine Sciolino, "Documents Detail Israeli Missile Deal with the Shah," New York Times, April 1, 1986.

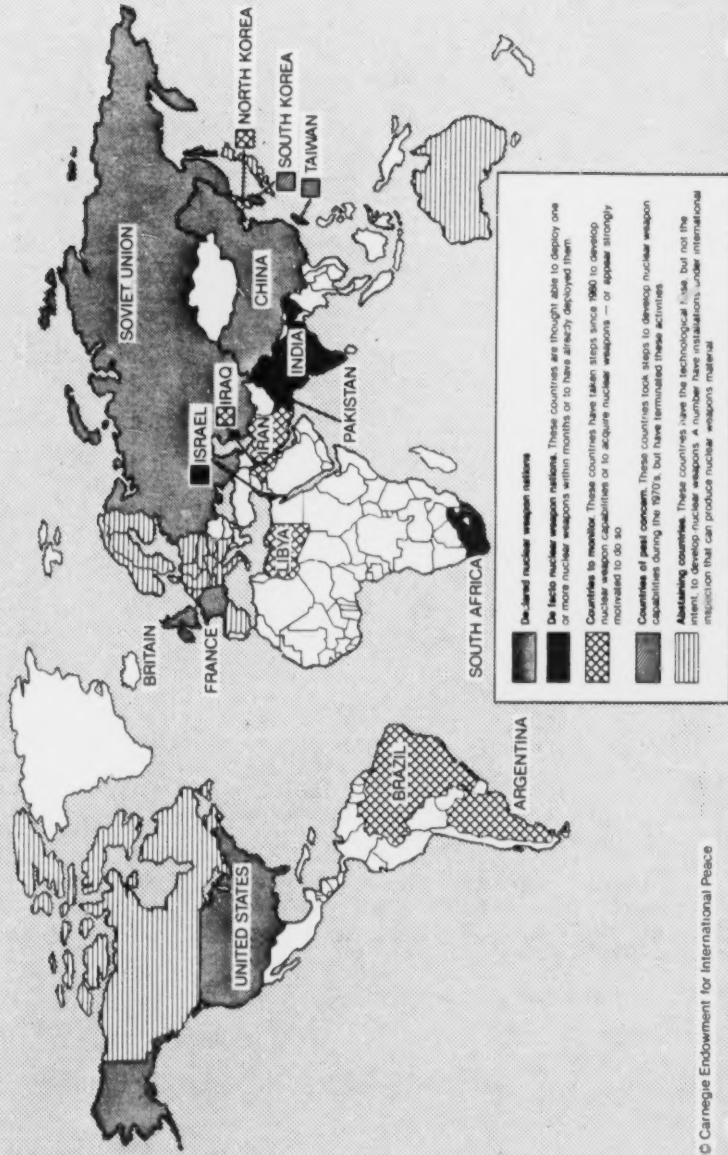
[5] Leonard S. Spector, The New Nuclear Nations (New York: Vintage Books, 1985), pp. 44-54.

[6] Peter Maas, Manhunt (New York: Random House, 1986), pp. 176-177, 179-182; Joseph C. Goulden, The Death Merchant (New York: Bantam Books, 1985), pp. 289-295; testimony of John Heath, January 29 and 31 and February 3, 1983, U.S. v. Wilson Cr. H-82-139, Federal District Court, Southern District of Texas. Wilson has made his views known in an interview with reporter Alan Berlow on "All Things Considered," National Public Radio, August 14, 1986, 6:30 p.m., as well as in a subsequent interview with me.

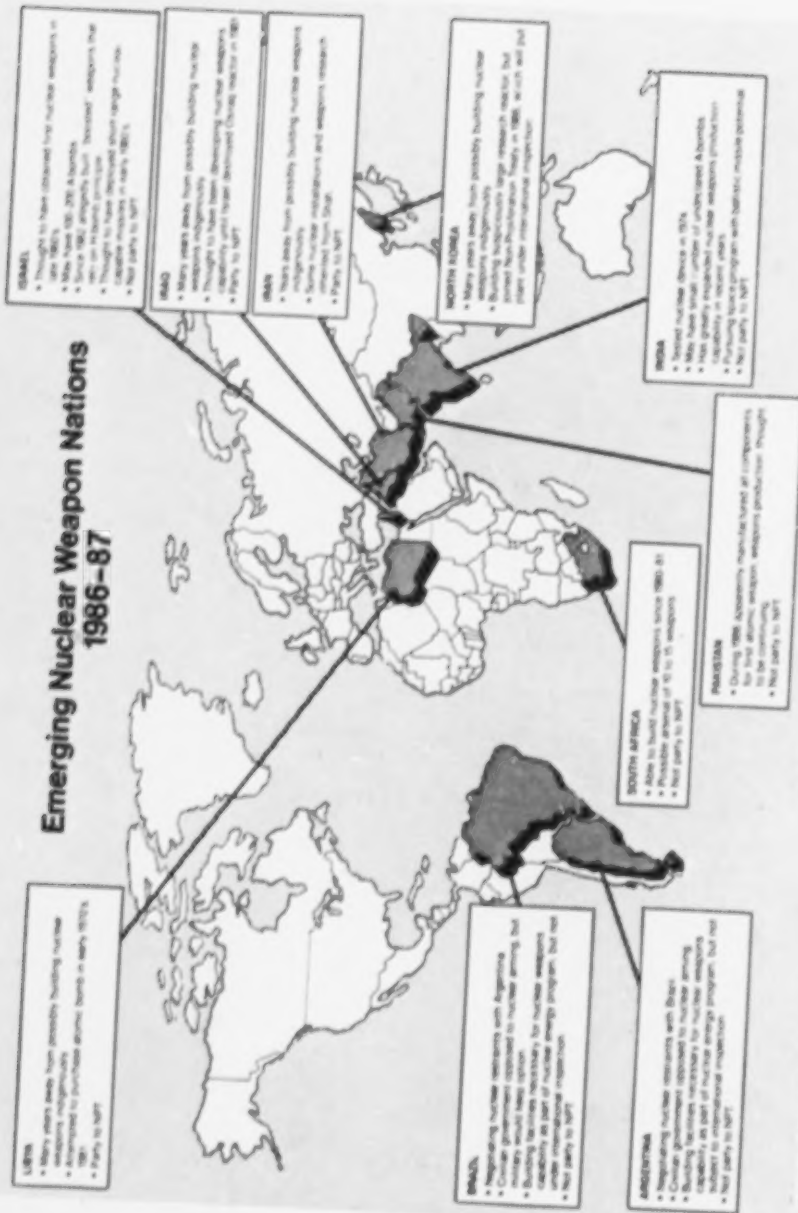
[7] Bob Woodward and Don Oberdorfer, "Pakistan A-Project Upsets Superpowers," Washington Post, July 15, 1986; Don Oberdorfer, "U.S., Pakistan Puzzled Over Soviet Move," Washington Post, July 21, 1986; Bob Woodward, "Pakistan Reported Near Atom-Arms Production," Washington Post, November 4, 1986.

[8] "Panel Supports Pakistan Becoming a Nuclear Power," Nawa-I-Waqt, November 15, 1985, translated in Joint Publications Research Service/Nuclear Development and Proliferation, February 7, 1986, p. 83.

The Spread of Nuclear Weapons 1986-87



Emerging Nuclear Weapon Nations 1986-87



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NPT - The Nuclear Non-Proliferation Treaty Requires all nuclear installations in a signatory country to be placed under International Atomic Energy Agency inspection

Portion of a Proposal for the Supply of Nuclear Weapons
Presented to Libyan Nuclear Officials in early 1981
by Edwin P. Wilson, Armand Donnay, and John Heath.

The following documents were prepared by Armand Donnay, a Belgian, whose imperfect English accounts for the grammatical and spelling errors. Some two hundred pages xeroxed from technical manuals concerning a research reactor that was part of the deal are not included. Edwin P. Wilson has stated that he participated in the negotiations in order to provide information to the Central Intelligence Agency, but others have disputed this claim. (See Going Nuclear pp. 150-155 and accompanying notes).

First Page -- Overview of Proposal.

- o Items 1 and 2 -- concerning a training reactor and a synchrotron and calutron for the production of medical isotopes -- were to be part of a "decoy contract."
- o Items 3-6 provide for the sale of a complete nuclear weapon test site; construction of a facility to produce nuclear weapon material; construction of a nuclear weapons assembly plant; and the training of military personnel, respectively.

Second Page -- "Appendix 1"

- o Item (a) explains decoy contract.
- o Item (b) describes how nuclear weapon material would be obtained first from the international black market and then from a factory that would extract plutonium from spent fuel discharged by "European Nuclear Power Stations". ("235," refers to Uranium-235 and "PLU" to plutonium, the two alternative nuclear weapon materials).

Third Page -- "Appendix 4"

- o Provides details on the types of weapons (bombs and missile warheads) to be manufactured under the proposal, and their yields. ("MG," and "MEG" refer to megaton, the equivalent of one million tons of TNT; "KT" refers to kiloton, the equivalent of 1000 tons of TNT.)

Fourth Page -- "Appendix 5"

- o Shows which elements of the Libyan armed forces would receive the various nuclear weapons to be produced under the proposal.

- o Describes "safety" mechanisms for ensuring that "only the president and the chief of staff" control the use of the weapons.

Fifth Page -- Sketch of Factory Layout

- o Shows layout of weapons assembly plant, with areas for disassembling and modifying conventional munitions (near top); for fabrication of high explosives part of atomic weapons (left center); for fabrication of nuclear elements (lower right); and for final assembly of completed weapons (upper right).

Sixth Page -- Printed Layout Drawing

- o Apparently a xerox from a legitimate manual for a cyclotron used to produce radio-isotopes.

Seventh Page -- Sketch of Single 500 KT Bomb

- o Nuclear core, "safety key," and other elements are detailed. Presence of "hydrogene container" and high yield of bomb suggests this is meant to be a hydrogen bomb.

Eighth Page -- Sketch of 1-Megaton and 500 KT Bombs

Ninth Page -- Sketch of Frog-7 Missile With Nuclear Warhead.

Tenth Page -- Sketch of Frog-3 Missile With Nuclear Warhead.

VALIDITY : 11/01/1981 /Ohrs GM

MICKEY PROJECT DEFINITIVE OFFER.

FROM :

TO: SOCIALIST PEOPLES LIBYAN ARAB JAMAHIRYA
NUCLEAR COMMISSION FOR CIVIL AND MILITARY USE, TRIPOLI
SPLAJ.

For delivery to Jamahiriya theses following goods and services

.- FOR THE DEAD DATE OF 1 MAY 1987 WE CAN PROVIDE TO SPLAJ
NUCLEAR ACTIVE FORCES FOR 38.500 Kilotones of Power.-
Include theses following details :

1) ONE NUCLEAR REACTOR POWER 5 to 10 MGV in Tripoli area, ready
use, include all teaching and training programme for Libyans
students until authonomy national use.

Following pro forma invoice of and annexed
technical documents.

Total cost US \$

2) ONE SYNCHROTON and ONE CALUTRON in Tripoli area ready for use
(power 5 MEV) include all teaching and training programme by
first class European technicians, include also complet medical
programme for Libyans students until complet authonomy in the
country, All following pro forma invoice from
for total cost US \$

3) ONE COMPLET FIRE TEST FIELD, in designated area, includ
all

include teaching and
training programme for Libyans students until complet authonomy
no includ : DRILLING WORKS AND DRILLING MATERIAL FOR FIRE FOIN
For total ammount of (includ in programme).-

4) Control of factory , for produce radi
isotopes (appendix 2) and some export black agreements.

5) Build in Tripoli area, converted factory, for make in count
all "A" containers and produce every projectiles in serial
production, with teaching and training programme for Libyans
students until complet authonomy, includ all normal projectiles
vehicles and spares parts for three years.

6) Troops training until complet authonomy.

For total ammount of: US \$ =

INCLUD ALL DETAILS IN ANNEXED APPENDIX.- *

030018

ATTACHMENT 1.

The contract must be cut in three parts :

- a) DECOY/ This part of the contract is official part, for protect displacement of Technicians and export licence for some material. This part contain Three items.
 - 1) Reactor officialy power 3 MW for produce electricity.
 - 2) Synchrotron , for make enrichment for medical application (SPLAJ is the first country, in Africa and Middle east to obtain medical nuclear power).
 - 3) Reel Medical works.
- b) Isotopes delivery (ONLY 235 or PLU), start from the International black market, and progressively from the factory , this factory make refinement of the Nuclear fuels from European Nuclear Power Stations, and can distroy the Pu ??? We also with a time, can obtain some isotopes from our PS .
- c) Fire tests and arial weapons production, start with a normal nuclear bomb and go to Neutronic bomb.

 With our programme, and with electroniques material we have in stock, the Libyan armed nuclear forces can have authonomy for septembre 1986, with a balance under one year.

 START POINT : 1 MARCH 1981

END OF PROGRAMME : 1 OCTOBER 1986 to Max SEPT. 1987.

 For protect cash money deposit, the Company issue a new shares for 9/10 value of cash deposit and place in the common bank at the name of SPLAJ Government. The last 1/10 is actual value of Company.

00021

APPENDIX 4.

.- About N projectiles.

In our factory in SPLAJ we building some "N" containers with various power.

1) For Long Range aircrafts Bomb, we prepar 8 Containers of 1 Megatone and 33(25) containers of 500 KT. We need 2 MG and 5 of 500 KT for test in fire field.

We make conversion from normal explosiv TNT Bomb, braked by parachute, we make electronic adaptation for altimeter exploder.

In the project we have 6 MEG and 20 1/2 Mg Bombs.

2) For Medium Range and tactical Missiles, with medium "N" charges, (250 KT) ballistic range 40 to 150 KM, we use modified Russian tactical TNT missiles type Frog 7.(scud A) We prepar 35 "N" heats, and we use 5 in fire tests.

The SPLAJ Armed forces receive dotation :

- .-30 "N" 250 kt Missiles.
- .-120 TNT normal Missiles.
- .-30 Launchers trucks.
- .-30 Supply trucks.

3)For strategic short Range missiles , we converted the Russian Frog 3. (Ballistic range from 10 to 40 km).

We prepar 155 "N" heats of 100 KT power for short range strategical defense. We need 5 for fire tests, and prepar 150 for armed fire use.

Previous dotation:

- Actives N Missiles : 150.-
- Normal TNT Missiles: 150.-
- Training dummy : 200.-
- Tank's Launchers : 150.-
- Lorry's Supply : 150.-

4) Preparation of all engineering for build Neutronic projectiles.

5) + Tacticals scool and training for armed forces.

+--+--+--+--+--+--+--+--+

APPENDIX 5.

STRATEGICAL POSITIONMENT. - (July 1986/ May 1987).

	1 MG	1/2 Mg	250 Kt	100 KT.
AIR FORCES	6	20		
Heavy artillery			30	
Battle field artillery				150.

TOTAL NUCLEAR POWER AT DEAD DATE :	1° AF:	6.000 KT
	2° AF:	10.000 KT
	3° HA:	7.500 KT
	4° FA:	15.000 KT
Total power =		38.500 KT

For safety each nuclear bomb or missile, have a safety key lock, only the president and the chief of staff control the 2 keys for release the safety. In other case it is impossible use the nuclear projectile

We have also possibilities for adapted radio safety key, in this case only one radio transmitter using microprocessors systems, can release the safety through radio impulsion. But the last system is more dangerous, any body that know radio code, can release the safety.

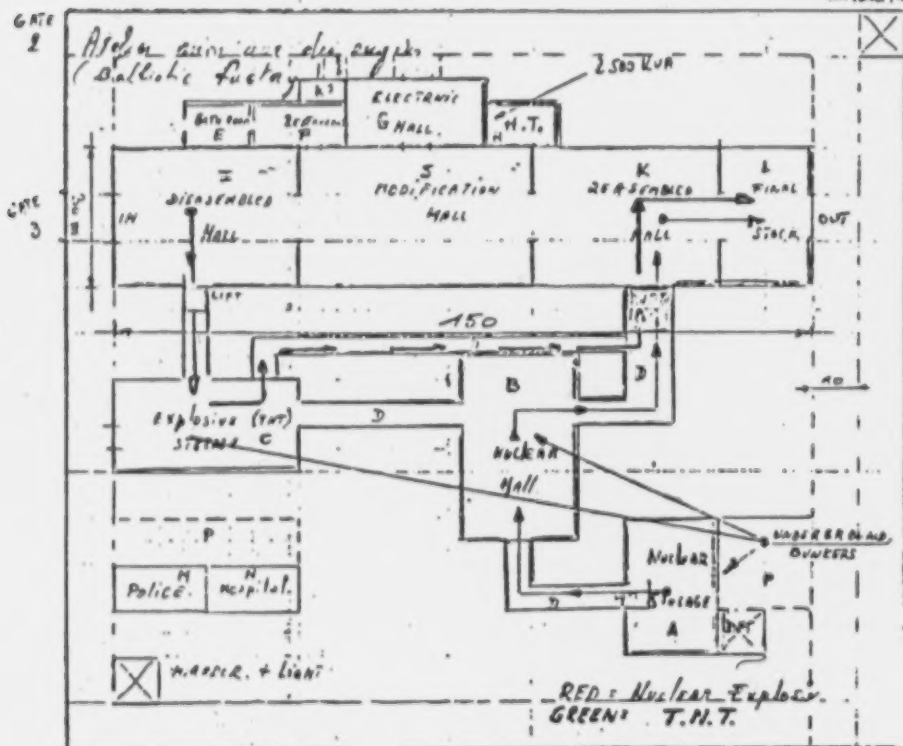
In case of Nuclear alarm, The President and chief of staff can send security officer on every nuclear place, with the both safety keys and can use, in plus, the radio safety systems.

Our preference go to the complete safety system, turn key lock + radio code impulsions.

0:0023

Nuclear 1 Megaton bombs long range bombers	6.-
Nuclear 500 KT medium range bombers	20.-
Nuclear Ballistic Missiles (450 km) (250 KT)	30.-
Nuclear Strategic Missiles (40 km) (100 KT)	150.-

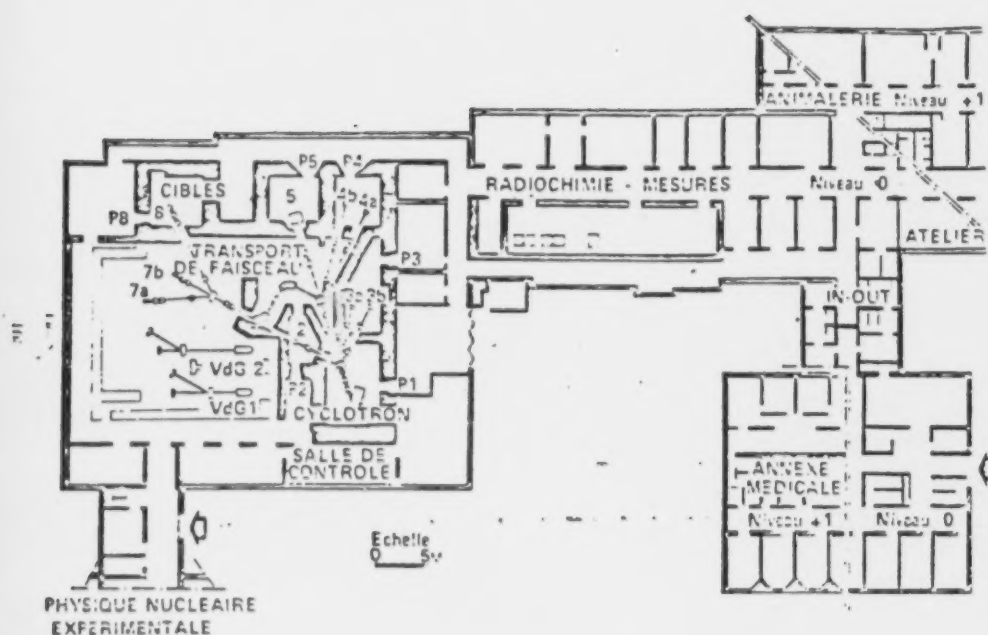
Total engine : 206.-

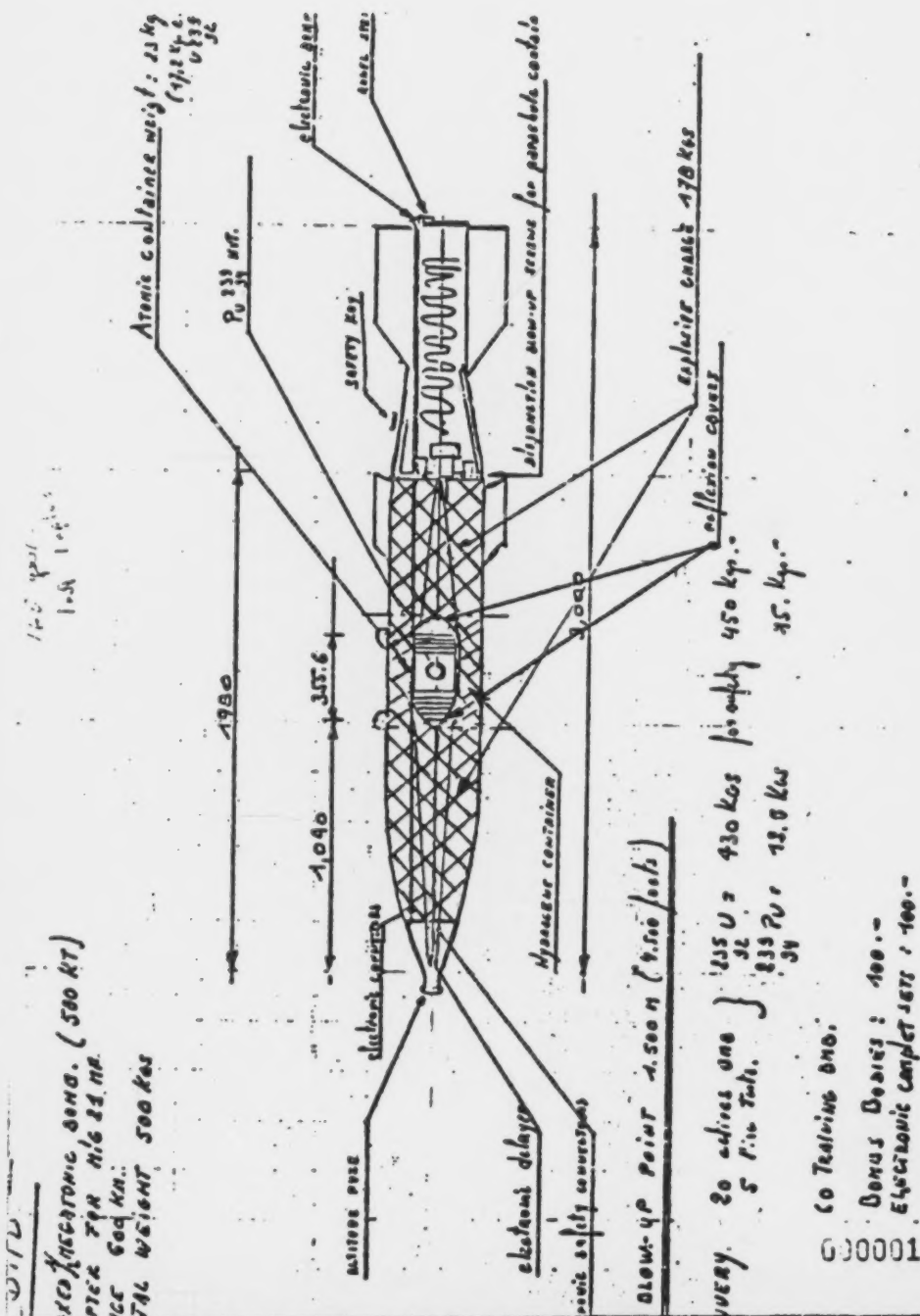


AREA FACTORY : Field 280 x 170 = 30,600 m²
UNDERGROUND BUNKERS : A/cen m² D/A 1000 m² C/1000 m² D/A 1000 m² TOTAL = 3550 m²
OVERCROWD BUILDINGS : HY N : 400 m² / E/F/L K & G 400 m² / J & I 400 m² / L & M 400 m²
TOTAL : 3,300 m²
ROAD and Parkings : 7,200 m²
ENCLOSURE : 700 m²

0.0019

030019

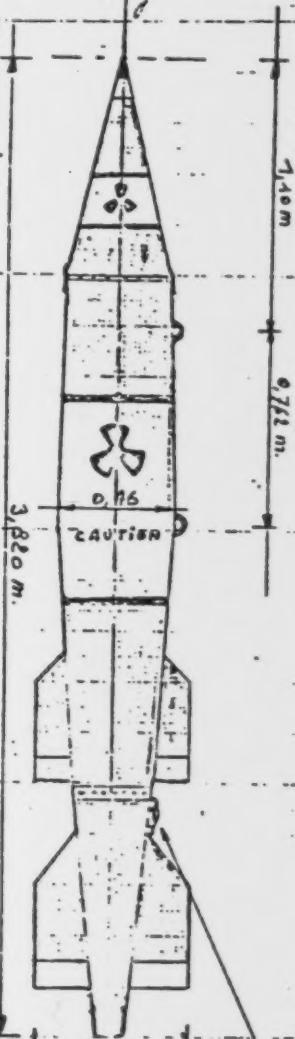




Slow-up point 5,000 feet to 30,000 feet
 Total weight: 4000 Kgs

TNT: 400 kg
 NC: 51.6 kg
 H: 23 kg
 P: 250 g

POWER: 4 MT



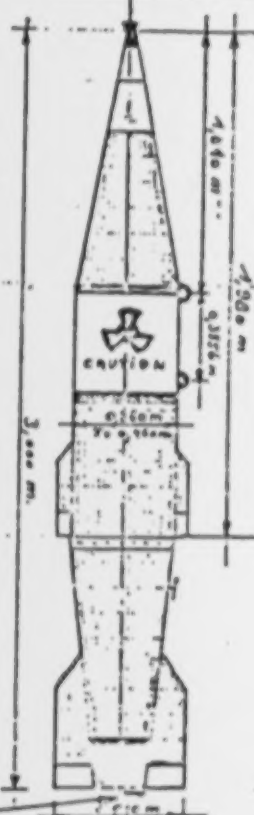
DOTATION: 6 } $\frac{235}{92} = 413 \text{ kgs.}$
 FIRE TESTS: 2 } $\frac{230}{27} = 6 \text{ kgs.}$
 TRAILING: 20

Slow up point: 7,000 feet
 To 45,000 feet

TOTAL WEIGHT: 500 Kgs

TNT: 178 kg
 NC: 17.2 kg
 H: 13 kg
 P: 0.6 kg

POWER: 500 K.T.



DOTATION: 20 } $\frac{235}{92} = 430 \text{ kgs.}$
 FIRE TESTS: 5 } $\frac{230}{27} = 45 \text{ kgs.}$
 TRAILING: 60

0.0002

TOTAL WEIGHT 4,400 Kgs

RANGE : 150 KM

NORMAL TNT EXPLOSIVE CHARGE : 180kg

Nuclear charge : $\begin{cases} 235U = 8.6 kg \\ 239Pu = 250 grs \\ 34 \end{cases}$

DOTATION :

5 FIRE TESTS

30 ACTIVE NUCLEAR MISSILES.

120 ACTIVE TNT MISSILES.

30 LAUNCHEURS TRUCKS

30 Supply TRUCKS

235U : 304 Kgs

32

239Pu : 9 Kgs -

34



030004

NUCLEAR STRATEGIC MISSILES
CONVERTED FROM SSR FROG-3.

POWER. 400 KT.-

RANGE 40 KM.-

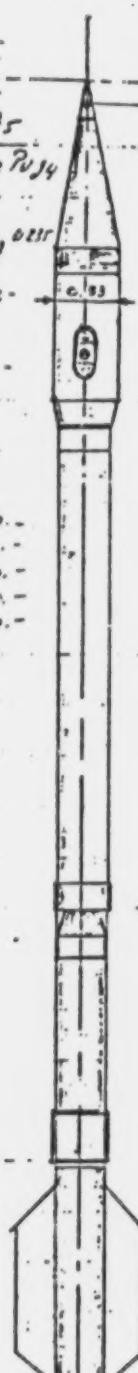
Nuclear Charge 4,3 kg. 485
115 kg Pz 34

Qty: 150. = 150 x 4,3 = 645 kg
+ 5 Tests = 20 kg Pz 34

NORMAL TRAINING WITH SSR FROG-3.

WEIGHT (TOTAL) 2,200 KGS.-

DOTATION: ACTIVES Nuclear = 150.-
ACTIVES KX/TNT = 150.-
TRAINING BUNNY = 200.-
TANK LAUNCHER = 150.-
LORRY PRCE = 150.-



000003

STATEMENT OF
AMBASSADOR-AT-LARGE RICHARD T. KENNEDY
BEFORE THE
COMMITTEE ON GOVERNMENTAL AFFAIRS
UNITED STATES SENATE

FEBRUARY 25, 1987

Mr. Chairman:

Thank you for inviting me to appear before the Committee to discuss the Administration's efforts to restrain the proliferation of nuclear weapons. I understand that the Committee is particularly interested in discussing the substance and implementation of the Administration's non-proliferation policy, our efforts with regard to so-called "sensitive countries", questions involving plutonium use, and the organization of the Executive Branch for carrying out non-proliferation policy.

My testimony will, of course, review each of these areas. However, as it has been almost a year since the last major discussion of non-proliferation policy before this Committee, I believe it would also be useful to review thoroughly the broader efforts which the Administration has undertaken in the areas of non-proliferation and the peaceful uses of nuclear energy.

In reviewing the Administration's efforts in preventing proliferation and in promoting the peaceful uses of nuclear energy under effective international safeguards, I would like to focus on five basic areas. They are:

(1) The Administration's non-proliferation policy.

(2) Multilateral and bilateral efforts to strengthen the non-proliferation regime, including activities in support of the IAEA.

(3) Negotiation and renegotiation of agreements for peaceful nuclear cooperation pursuant to the Nuclear Non-Proliferation Act of 1978.

(4) Efforts with regard to "sensitive" countries, i.e. countries with significant nuclear programs which have not undertaken an international commitment to place all of their nuclear facilities under IAEA safeguards.

(5) Technical efforts with regard to nuclear export controls.

In my statement, Mr. Chairman, I would also like to outline what we see as the principal areas on which we need to focus for the future.

The Administration's Non-Proliferation Policy

The President seeks, as a fundamental objective, to reduce the dangers to world peace and global stability posed by the potential proliferation of nuclear explosives. The essence of his policy was outlined in the President's statement of July 16, 1981. That statement expressed clearly the President's belief that preventing the spread of nuclear explosives was a fundamental national security and foreign policy objective. In announcing a policy framework to reinforce long-standing U.S. objectives, the President stated that the United States will:

--Seek to prevent the spread of nuclear explosives to additional countries as a fundamental national security and foreign policy objective.

--Strive to reduce the motivation for acquiring nuclear explosives by working to improve regional and global stability and to promote understanding of the legitimate security concerns of other states.

--Continue to support adherence to the Treaty on the Non-Proliferation of Nuclear Weapons and to the Treaty for the Prohibition of Nuclear Weapons in Latin America (Treaty of Tlatelolco) by countries that have not yet accepted those treaties.

--View a material violation of these treaties or an international safeguards agreement as having profound consequences for international order and United States bilateral relations, and also view any nuclear explosion by a non-nuclear weapon state with grave concern.

--Strongly support and continue to work with other nations to strengthen the International Atomic Energy Agency (IAEA) to provide for an improved international safeguards regime.

--Seek to work more effectively with other countries to forge agreement on measures for combatting the risks of proliferation.

--Continue to inhibit the transfer of sensitive nuclear material, equipment, and technology, particularly where the danger of proliferation demands, and to seek agreement on requiring IAEA safeguards on all nuclear activities in a non-nuclear weapon state as a condition for any significant new nuclear supply commitment.

The President also made clear in his policy statement that the United States would:

--Cooperate with other nations in the peaceful uses of nuclear energy, including civil nuclear programs to meet their energy security needs, under a regime of adequate safeguards and controls.

--Reestablish this nation as a predictable and reliable partner for peaceful nuclear cooperation under adequate safeguards.

--Support IAEA programs and other international cooperative efforts in the areas of nuclear safety and environmentally sound nuclear waste management.

Finally, the President also stated that the Administration would not inhibit or set back civil reprocessing and breeder reactor development abroad in nations with advanced nuclear power programs where it does not constitute a proliferation risk.

With your permission, Mr. Chairman, I would like to offer for insertion in the record at this point the full text of the President's July 16, 1981 statement on United States non-proliferation and peaceful nuclear cooperation policy.

--U.S. Non-Proliferation Objectives

As I have indicated in previous testimony before this Committee, Mr. Chairman, the Administration is pursuing a series of specific objectives in support of the President's policy and goals. Most broadly stated, we want to assure not only that there will be no new nuclear explosions by non-nuclear weapon states, but also that there will be no addition to the number of "threshold states" -- countries which lack only a political decision to explode a nuclear device. We seek to involve other responsible members of the international community in a cooperative effort against proliferation, and we seek to address the underlying causes of nuclear proliferation, not just its symptoms.

More specifically, the Administration is:

--Seeking improvement in the IAEA safeguards system and in the delivery of technical assistance in the peaceful uses of nuclear energy.

--Working to upgrade nuclear export controls to cover new and advanced technologies.

--Working to ensure the adequacy of physical protection on nuclear materials.

--Reinforcing the U.S. reputation for effective cooperation and reliable supply.

--Seeking universal adherence to the NPT, and encouraging all Latin American countries which have not done so to ratify the Treaty of Tlatelolco and to bring it into force for themselves.

--Expanding our dialogue with non-NPT states in encouraging the broader application of IAEA safeguards to their unsafe-guarded nuclear facilities.

--Negotiating new and amended agreements for peaceful nuclear cooperation pursuant to the NNPA.

--Expanding the number and frequency of bilateral discussions on strengthening the non-proliferation regime.

--The U.S. Approach to Non-Proliferation

Mr. Chairman, the Secretary of State has also spoken personally and forcefully on the importance of our non-proliferation efforts. In his November 1984 address to the United Nations Association, the Secretary set forth the approach utilized by the Administration, which is designed to facilitate cooperation with our allies and friends and to ensure us an effective leadership role in international nuclear affairs. In brief, the Secretary made the following points:

--The U.S. supports nuclear power, recognizing that nuclear generated energy will be increasingly important for the economic development and energy security of many nations around the world.

--We must make rational distinctions between close friends and allies who pose no proliferation risk and those areas of the world where we have real concerns about the spread of nuclear explosives.

--Emphasis must be placed on closer consultation and cooperation with our nuclear partners.

--Broadening the dialogue with non-NPT countries can lead to a strengthened safeguards regime and the possible enhancement of regional stability.

--Improving U.S. export controls -- the technical side of the non-proliferation issue -- helps to prevent the acquisition of nuclear explosives by countries which seek that capability.

--Strengthening IAEA safeguards is a key part of our effort, both as to improving the inspection capabilities of the IAEA and as to seeking the adoption of comprehensive

safeguards as a condition of nuclear supply.

--Finally, the Secretary made clear that we must not ignore the legitimate needs of technologically less advanced nations that wish to share in the peaceful uses of the atom.

Mr. Chairman, with your permission, I would like to offer for insertion in the record at this point the full text of the Secretary's November 1, 1984 address to the United Nations Association on preventing the proliferation of nuclear weapons.

Multilateral Efforts to Strengthen the Non-Proliferation Regime

The Administration's efforts to strengthen the non-proliferation regime through international organizations encompass a broad variety of U.S. programs and multilateral discussions. Of major importance are our technical efforts in support of safeguards development and implementation -- recognizing that the IAEA safeguards system plays a role critical to our own U.S. national security interests. The United States is also a major participant in fora concerned with non-proliferation principles and their relationship to the peaceful uses of nuclear energy. Here I am referring to our participation in the IAEA's Committee on Assurance of Supply and the upcoming UN Conference on the Peaceful Uses of Nuclear Energy.

--U.S. Technical Assistance to Safeguards

The Program for Technical Assistance to Safeguards (POTAS) continues to be the primary vehicle for contributions by the United States of technical resources, funds, and other support to assist the IAEA in the development of equipment and techniques to improve international safeguards. Each year, the IAEA

identifies a number of specific needs. These include new types of instruments, technical studies, assistance in new safeguards methods, and training assistance. To the extent that POTAS resources permit, the U.S. undertakes specific tasks through POTAS to respond to these needs to improve particular aspects of IAEA safeguards. About 320 such tasks had been completed by the United States by the end of 1986 and over \$48 million has been expended over the ten years of the program. In 1986 alone, POTAS was funded at \$5.74 million, about three-fourths of which was spent in the U.S., mostly at the Department of Energy's national laboratories.

The POTAS program provides for the development and testing of sophisticated measurement instrumentation for a wide variety of inspection purposes at all kinds of nuclear facilities. POTAS also provides U.S. safeguards experts and consultants cost-free to the IAEA and provides for training of safeguards personnel. POTAS has resulted in dramatic improvements in the technical capabilities of the IAEA and has been a major factor in the IAEA's keeping abreast of developments in the nuclear industry. This contribution was well documented in a 1984 GAO report on POTAS. Additionally, since the U.S. began the POTAS program in 1977, nine other countries and EURATOM have initiated similar programs.

Mr. Chairman, I think it is fair to say that, because of the POTAS program and the efforts of other concerned countries, IAEA safeguards are stronger and more effective than they were even three years ago. We will, of course, continue our efforts

to strengthen the IAEA safeguards regime.

--Safeguards Development for Advanced Technologies

One area which is key for the future is development of inspection capabilities for advanced nuclear technology. The IAEA must have the trained personnel and equipment which will be required to apply effective safeguards to advanced enrichment technologies and to reprocessing and other forms of bulk handling facilities. A few such facilities already exist and several more are in the planning stage or under construction.

In response to this challenge, POTAS efforts have been focussed in part on measurement instrumentation for uranium enrichment facilities, on in-field training on verification of highly-enriched uranium inventories at bulk handling facilities, and on verification of plutonium fuel inventories at light water power reactors. I would also note that funds made available by the Congress for non-proliferation research have made a vital contribution to development of safeguards approaches and instrumentation for reprocessing and other sensitive fuel cycle facilities.

--Committee on Assurance of Supply

The Committee on Assurance of Supply (CAS) was formed by the IAEA Board of Governors in 1980 after the conclusion of the International Nuclear Fuel Cycle Evaluation. Its mandate was to establish guidelines for the conduct of nuclear commerce that would reduce consumer nation uncertainties regarding supply of nuclear materials while maintaining strong non-proliferation guarantees.

The crucial aspect of the debate has been, and remains, the drafting of mutually agreeable principles adequately linking non-proliferation commitments and supply assurances. While the six years of extensive negotiations have been sometimes difficult, the issue cannot be finessed because it goes to our central concern of ensuring that supply assurances are consistent with the maintenance of a strong non-proliferation regime.

The U.S. will continue to be a key participant in CAS discussions, and we will maintain our efforts to resolve this issue at the next CAS session in May.

--UN Conference on the Peaceful Uses of Nuclear Energy

In December 1977, the United Nations General Assembly passed a resolution setting forth principles for nuclear cooperation based on non-discriminatory access to nuclear energy. After yearly reaffirmations of this resolution, the UNGA passed a new resolution in 1980 calling for an international conference to seek agreement on these principles. The U.S. has sought to promote a balanced conference that incorporates both a technical review of the full range of peaceful nuclear activities and a realistic assessment of ways to cooperate more effectively in areas which are most relevant to the needs of developing countries. We have also stressed that the necessary role of non-proliferation principles must also be properly addressed.

The preparatory meetings have now been completed and the Conference itself is scheduled to begin in late March in Geneva and last for three weeks. I would note that there has been a spirit of close cooperation among countries supportive of the

NPT and the IAEA during the conference preparations, and we have been pleased that a proposed outline of the final document of the Conference contains a clear reference to the central role of the IAEA in promoting international cooperation in the peaceful uses of nuclear energy. I would also note that I plan to head the U.S. delegation to PUNE. Dr. Dunn will also attend as the U.S. Coordinator for the PUNE Conference.

--IAEA Technical Assistance and Nuclear Safety Activities

A key part of our support for the IAEA involves our efforts to enhance the IAEA's delivery of technical assistance to developing countries and to strengthen its nuclear safety program. IAEA technical assistance programs have aided many countries in utilizing the peaceful benefits of nuclear energy. The IAEA's agriculture-related projects contribute to increasing food supplies in developing countries. Moreover, the IAEA's medical projects involving the use of radioisotopes can, quite literally, save lives.

U.S. support for IAEA technical assistance functions is channeled through the U.S. voluntary contribution to the Agency. This voluntary contribution, which is funded through the Foreign Assistance Act, provides both a cash contribution to the IAEA's Technical Assistance and Cooperation Fund and in-kind assistance through direct funding of particularly worthwhile projects, training courses, and cost-free experts. In 1986, the total U.S. voluntary contribution in support of IAEA technical assistance was approximately \$10.3 million.

The IAEA also played a key role in the international

response to the Chernobyl nuclear reactor accident in the USSR last April. The IAEA Director General was the first foreigner invited by the Soviet government to visit the reactor site after the accident, and the Agency was the primary mechanism for disseminating information on the accident.

While I have testified before Congress previously on IAEA activities following the Chernobyl accident, I would like to briefly summarize these for the Committee.

--A special meeting of the IAEA Board of Governors was convened in May to address the accident. The Board commissioned a post-accident assessment, directed that an expert working group be convened to discuss ways of improving nuclear safety cooperation, and directed the Agency's Secretariat to prepare plans and proposals for an enhanced nuclear safety program.

--The IAEA hosted the post-accident review in Vienna during which the Soviet Union provided a thorough briefing on the causes of the accident and allowed its representatives to be questioned by international nuclear safety experts.

--The 30th General Conference in September approved a program and budget for 1987 which included an additional \$2.03 million for expanded nuclear safety activities.

--A special meeting of nuclear safety experts met in November to review program priorities and to make recommendations to the Board of Governors.

--Finally, a second, special Board meeting was convened in December to establish the final priorities for IAEA safety activities. The Board assigned the highest priority to increased numbers of visits of Operational Safety and Review Teams (OSART), improving incident reporting and analysis, probabilistic safety assessment, and review of nuclear safety standards as those standards apply to severe accidents.

The IAEA also served as the negotiating forum for the nuclear accident notification and emergency assistance conventions. These international agreements, which were drafted in response to the Chernobyl accident, were negotiated in approximately one month and were opened for signature at the IAEA

General Conference in September. DOE Secretary Herrington signed these conventions for the U.S. at the General Conference, and I anticipate that they will shortly be submitted to the Senate for its approval.

In short, the IAEA's response to many of the issues posed by the Chernobyl accident has been timely, thorough, and effective.

At this point, Mr. Chairman, I would like to say a brief word about the issue of politicization in the IAEA. While the IAEA is clearly in the forefront of international organizations in terms of its overall effectiveness, we have had concerns in the past that the introduction of extraneous political issues would inevitably lead to the deterioration of the Agency's ability to perform its mandated technical functions.

I am pleased to note, however, that the disturbing tendency toward politicization in the IAEA has diminished. Thanks in large part to the determination of the United States, with the support of like-minded member states, efforts by some countries to deny illegally to Israel the rights and privileges of membership in the IAEA have been firmly rejected by the Agency. It is clear, moreover, that more and more countries recognize the importance of a strong technical organization which is not diverted by issues having no relevance to the purposes for which the Agency was created. I would even venture that our efforts may have convinced the Soviet Union that extraneous political debate can only harm the non-proliferation interests and concerns which they clearly share with the U.S. |

Mr. Chairman, I could continue on at length about the importance of the IAEA and its programs. However, at this point, with your permission I would simply like to insert for the record the report on the Agency's activities delivered by IAEA Director General Blix to the UN General Assembly last fall. I would also like to insert for the record the U.S. statement that was delivered at the UNGA in support of the DG's report.

--Nuclear Energy Agency

Another important international organization from the standpoint of U.S. nuclear cooperation is the Nuclear Energy Agency (NEA), which is part of the Paris-based OECD. NEA membership includes the European member countries of the OECD plus Australia, Canada, Japan, and the United States. The primary objective of the NEA is to promote cooperation among member governments on the technical, R&D, safety, regulatory and public information aspects of nuclear energy, and to assess the future role of nuclear energy as a contributor to economic progress.

The NEA, with its strong technical program, is a useful complement to the IAEA. Like the IAEA, the NEA has played an important role in the post-Chernobyl context, providing a useful forum for consultations among the Western countries to assess the impact and implications of the Chernobyl accident. In addition, the NEA, also like the IAEA, has adopted an enhanced safety program which is supported by the United States.

Bilateral Discussions on Non-Proliferation

Bilateral discussions have been a key part of our effort to develop an international consensus on non-proliferation. In

particular, we have focussed on the need for effective nuclear export controls, broadening the scope of items the export of which triggers IAEA safeguards, encouraging restraint in the transfer of sensitive technologies, dealing with unsafeguarded nuclear programs, and encouraging the adoption of comprehensive safeguards as a condition of significant supply by all nuclear suppliers.

These bilateral consultations have been undertaken with over twenty countries, including the United Kingdom, France, the Federal Republic of Germany, Japan, Canada, the Netherlands, Belgium, Switzerland, Italy, China, Argentina, Brazil, the Republic of Korea, South Africa, and the Soviet Union.

I would like to take particular note of our extensive non-proliferation consultations with the Soviet Union. These detailed talks on nuclear non-proliferation have demonstrated that U.S. and Soviet interests are frequently congruent in this area. Both President Reagan and Chairman Gorbachev have stressed the positive contribution of these discussions, and both sides are committed to fostering this dialogue.

In December, we completed the eighth round of consultations with the USSR. This latest round included discussions on support for the IAEA's safeguards system, methods for strengthening that system, the nuclear export control regime, the technical assistance and nuclear safety programs in the IAEA, and ways to encourage additional adherence to the NPT. Both we and the Soviets took note of our common interests in preventing the spread of nuclear weapons while at the same time helping

other countries to develop the peaceful benefits of nuclear energy. We also agreed that these regular extensive discussions were useful and productive and that the next round should be held in Moscow this June.

U.S. Agreements for Peaceful Nuclear Cooperation

Pursuant to Section 404(a) of the NNPA, the United States initiated a program in 1978 to renegotiate existing agreements for peaceful nuclear cooperation in order to incorporate the undertakings which were required for new agreements under the Atomic Energy Act, as amended. Since the NNPA was enacted in 1978, the U.S. Government has negotiated or renegotiated 13 agreements which meet all of the requirements of the Act. These agreements are with Australia, Bangladesh, Canada, China, Colombia, Egypt, Finland, IAEA, Indonesia, Morocco, Norway, Peru, and Sweden.

Major efforts have been focussed on renegotiation of existing agreements with Japan and EURATOM. As I previously noted, the policy enunciated by the President in his July 1981 statement was not to inhibit civil reprocessing and breeder reactor development in countries with advanced nuclear programs where it does not pose a proliferation risk. Consistent with that policy, the United States offered both Japan and EURATOM new arrangements whereby the U.S. would give its advance, long-term consent to reprocessing of materials subject to U.S. controls and to the peaceful use of plutonium produced from such materials, so long as U.S. statutory requirements are fulfilled.

Our meetings with EURATOM on this subject have continued on

a periodic basis since the Community agreed in July 1978 to enter into discussions concerning the existing U.S.-EURATOM agreement for cooperation. A number of rounds were held in 1986, and further discussions will be held this year.

I am pleased to note that the negotiating teams have reached ad referendum agreement with Japan on the text of a proposed new agreement, including an implementing agreement and associated documents. This text has been circulated to the Executive Branch agencies and to the Nuclear Regulatory Commission for their review. Following this review, the agreement will be submitted to the President for his approval, accompanied by the views and recommendations of the relevant agencies. If the President approves the agreement with Japan, we can then proceed to sign it and forward it to the Congress for the review period provided in the Atomic Energy Act.

Mr. Chairman, while I will discuss the various agencies which are involved in the development and implementation of non-proliferation policy later in my testimony, this might be a good place to say a word about how the interagency process works with regard to the negotiation of an agreement for cooperation.

The Atomic Energy Act provides that any proposed agreement for cooperation shall be negotiated by the Secretary of State, with the technical assistance and concurrence of the Secretary of Energy, and in consultation with the Director of the Arms Control and Disarmament Agency. The Act further provides that after consultation with the NRC, the agreement shall be submitted to the President jointly by the Secretaries of State

and Energy accompanied by their views and recommendations and those of the NRC and the Director of ACDA. The Director of ACDA also provides to the President an unclassified Nuclear Proliferation Assessment Statement regarding the adequacy of the safeguards and other control mechanisms and the peaceful use assurances contained in the agreement to ensure that any assistance furnished thereunder will not be used to further any military or nuclear explosive purpose.

With regard to what goes into the agreement, Section 123 of the Atomic Energy Act provides that an agreement shall include the terms, conditions, duration, nature and scope of the cooperation. The Act also requires that a series of specific criteria established by the Congress be incorporated in each agreement for cooperation. These criteria include the application of IAEA safeguards (in non-nuclear weapon states), prohibitions against nuclear explosive or military use, retransfer controls, application of physical security, and controls over reprocessing of spent fuel of U.S. origin and the alteration in form or content and storage of certain types of nuclear materials.

In most cases, negotiations have been undertaken based simply on the provisions of previous U.S. agreements supplemented by the new requirements of the Atomic Energy Act. In certain cases, however, agreements may raise particular policy questions which require interagency review and consideration by the President prior to the initiation of negotiations.

Such was the case with the Japan and EURATOM agreements

because of the issue of long-term or programmatic approval of reprocessing and use of plutonium. The process leading to a decision on whether to offer programmatic approval in the context of amended agreements for cooperation involved not just the agencies specified in the Act, but the Departments of Defense and Commerce as well. An interagency group considered the issues, and recommendations were made to the President accompanied by the views of the relevant agencies. A similar process was followed with regard to the initiation of negotiations with China.

A similar interagency process is utilized in making recommendations to the President on whether to sign a particular agreement. Following negotiation and initialing of a proposed text of an agreement for peaceful nuclear cooperation, the text is then forwarded to the agencies enumerated in the Act -- the NRC, ACDA, and DOE. In the case of the Japan and China agreements, those texts were also forwarded to the Departments of Defense and Commerce, so that they also could provide their recommendations to the President.

--Programmatic Approval

Discussion of the Japan and EURATOM agreements for cooperation provides an appropriate opportunity to discuss the Administration's policy on programmatic approval and plutonium use. As I indicated, that policy is based on the President's decision in 1981 not to inhibit civil reprocessing and breeder reactor development in countries with advanced nuclear programs where they do not pose a proliferation risk.

We recognize full well that plutonium must be carefully controlled and safeguarded. The President has categorically reaffirmed our commitment to inhibiting the transfer of sensitive nuclear material where the danger of proliferation requires restraint. Sensitive nuclear facilities and activities should be limited to those countries where their presence results in no significant risk of proliferation. We have urged that this view be accepted as an international norm. We have initiated and participated in multilateral efforts to improve safeguards on plutonium and to reduce the risk of its use for non-peaceful purposes. These have included efforts to revise and upgrade the Zangger Committee trigger list on exports of reprocessing equipment, and have also included close cooperation with the IAEA and other nations on developing more efficient and effective measures for safeguarding reprocessing plants and other facilities which handle plutonium.

We are thus alert to the potential risks involved with plutonium use, and we are firmly committed to minimizing those risks. Nevertheless, the United States is simply not in a position to dictate or prescribe a policy on reprocessing or plutonium use for developed countries with advanced nuclear programs which have committed themselves to using plutonium to meet their future energy needs. The facts are that the U.S. has consent rights over no more than half the existing spent fuel in the free world -- and that percentage will continue to drop in the coming years.

Programmatic approval recognizes that advanced civil nuclear programs involving reprocessing and plutonium use already exist in certain countries where they pose no proliferation risk, and that these programs will go forward regardless of any U.S. attempt at dissuasion. The facts are that our key trading partners and allies in Europe and Japan have already made substantial technical and economic investments in using mixed uranium-plutonium oxide (MOX) fuel in their civilian nuclear power programs. Large reprocessing plants are in operation in France and the UK, with a medium sized plant operating in Japan. These countries, plus the FRG, have firm plans for, or are constructing, additional capacity. Further, MOX fuel fabrication plants are operating in Belgium, France, Japan, and the FRG. A new MOX plant is being built in Japan, and the Belgium and French facilities are being expanded. These plutonium use facilities represent investments on the order of several billions of dollars.

Thus, the Administration believes that our only realistic course is to work with these select countries to help improve safeguards and controls over the sensitive technology and materials that they are now using. For example, we are exploring ways to develop and implement advance safeguards arrangements on bulk plutonium facilities and fast breeder reactors. We maintain regular consultations on physical protection for nuclear material -- with particular emphasis on international transport. We are working to strengthen the existing consensus regarding constraints on transfers of

plutonium and plutonium technologies outside of these advanced countries. We have begun consultations aimed at improving the efficiency of accounting procedures for tracking plutonium.

Taken together, the initiatives we have undertaken with the IAEA, EURATOM countries, and Japan provide a strong foundation for cooperative efforts in protecting against the potential dangers of plutonium use. We intend to build on this foundation, and continue to address these problems, as these countries proceed with their plans for plutonium use.

--Timely Warning

Mr. Chairman, with respect to plutonium use, I understand that the Committee is interested in discussing the concept of "timely warning." As the Committee is aware, the Secretary of Energy may not approve subsequent arrangements for reprocessing or for retransfer of plutonium unless in his judgment, and that of the Secretary of State, the activity will not result in a significant increase in the risk of proliferation beyond that which exists at the time that approval is requested. The law requires that, in making this judgment, foremost consideration be given to "whether or not the reprocessing or retransfer will take place under conditions that will ensure timely warning to the United States of any diversion well in advance of the time at which the non-nuclear weapon state could transform the diverted material into a nuclear explosive device".

In order to reach this judgment on proliferation risk, the Department of Energy -- along with other interested departments and agencies -- has established detailed procedural steps that

are followed in each case. Chief among these is the requirement that DOE prepare an analysis evaluating all of the factors relevant to the case. The factors taken into account in these analyses (which are submitted to Congress) include: the application of IAEA safeguards, the technical capabilities of the recipient country, the country's commitment to non-proliferation (including treaty commitments to forswear acquisition or development of nuclear explosives), and the likelihood that changes in these or other circumstances would provide the U.S. with warning far in advance of the time when the recipient could transform diverted material into an explosive device.

In order to fully consider the question of timely warning, political factors, including judgments about the diplomatic relationships and influence that the U.S. has with respect to the country in question, are taken into account by the DOE where they are relevant to the ability of the U.S. to detect in advance indications that a diversion might soon occur or had occurred.

Efforts With Non-NPT Countries

The Committee has asked that I address our efforts with regard to countries which have not adhered to the NPT or otherwise accepted IAEA safeguards on all of their nuclear facilities. While I will discuss our efforts with regard to a number of these countries, I would like to say at the outset that it is difficult, if not impossible, to discuss much of what we know about nuclear activities throughout the world in an open forum. I am happy to review the Administration's policy and

efforts in these areas, but I know the Committee will understand if I must indicate that certain questions which the Committee may have can only be addressed in a closed session.

--South Asia

South Asia is at the forefront of the Administration's proliferation concerns. India's detonation of a so-called "peaceful nuclear explosive" in 1974 was perhaps the most significant challenge to the non-proliferation regime, while Pakistan's unsafeguarded nuclear activities remain a preeminent concern.

While President Zia and Prime Minister Junejo have made public assurances regarding the peaceful nature of Pakistan's nuclear program, we have continued to convey to the Government of Pakistan on numerous occasions and at the highest level our concerns about unsafeguarded nuclear activities in that country. We have also made clear that Pakistani nuclear restraint is essential to our ability to provide security assistance.

The Administration will continue to do all that it can to restrain Pakistan's nuclear program, and our ability to provide security assistance is essential in this regard. More fundamentally, any lasting solution to South Asian nuclear issues lies in a dialogue between India and Pakistan leading to significant non-proliferation steps by both. We have continued to urge both Pakistan and India to join the NPT, or otherwise accept full-scope safeguards. I would note that India and Pakistan have agreed not to attack each other's nuclear facilities, and we have urged both parties to undertake a

broader dialogue on other confidence building measures.

As I have indicated in previous testimony, President Zia, at the UNGA in 1985, indicated that his government is prepared to undertake jointly with India accession to the NPT, acceptance of full-scope safeguards, mutual inspection of nuclear facilities, a joint declaration renouncing acquisition or development of nuclear weapons, or establishment of a nuclear weapons free zone in South Asia. We have urged both sides to follow up on just these kinds of proposals.

--South Africa

South Africa's unsafeguarded nuclear program remains a source of continuing concern to the Administration. While South Africa has two nuclear power reactors and a research reactor under IAEA safeguards, it also possesses a significant unsafeguarded nuclear program, including a pilot uranium enrichment facility.

We have consistently encouraged South Africa to adhere to the NPT and to accept full-scope safeguards. We have also encouraged discussions which have taken place between South Africa and the IAEA on the application of safeguards to a new semi-commercial enrichment facility which will shortly be ready for operation. While these discussions are far from concluded, good progress has been made, and we hope South Africa will continue these talks.

One positive development was South Africa's 1984 announcement that it would apply IAEA safeguards to its own nuclear exports and would abide by the provisions of the Nuclear

Suppliers Guidelines. In this respect, South Africa has taken a responsible attitude with regard to its status as an emerging nuclear supplier.

--Israel

Israel is another country which has neither adhered to the NPT nor accepted IAEA safeguards on all of its nuclear activities. For this reason, the U.S. does not engage in significant nuclear cooperation with Israel and has not renewed the U.S.-Israel nuclear cooperation agreement which expired in 1977.

The Administration has urged Israel to adhere to the Non-Proliferation Treaty and to accept full-scope IAEA safeguards, and we will continue to do so on all appropriate occasions.

--Argentina/Brazil

The non-proliferation situation in Latin America appears increasingly positive. While neither Argentina nor Brazil have taken the steps necessary to place the Treaty of Tlatelolco into force for themselves, there are continuing discussions between the two countries on nuclear confidence building measures.

Argentina has made clear its desire to stress the peaceful nature of its nuclear program and has announced its own intention to apply safeguards to its nuclear exports. President Alfonsin has placed the Argentine nuclear program under civilian control and has emphasized the peaceful applications of nuclear science in fields such as energy, medicine, and agriculture. While Argentina continues to develop uranium enrichment and reprocessing facilities, we believe that the

Argentine Government is serious with regard to the peaceful intentions of its own nuclear program.

Brazil has ratified the Treaty of Tlatelolco but has not taken the steps necessary to bring it into force for itself. Like Argentina, Brazil has an extensive nuclear program and has not accepted safeguards on all of its nuclear activities.

The Administration has urged both Brazil and Argentina to take the steps necessary to bring the Treaty of Tlatelolco into force for themselves and to place all of their nuclear facilities under IAEA safeguards. We continue to follow closely developments in Latin America, particularly with regard to the growing nuclear dialogue between Brazil and Argentina, and we look forward to the outcome of these discussions.

--The NPT and the Treaty of Tlatelolco

My discussion of our efforts with non-NPT parties would not be complete without a review of our broader efforts to increase adherence to the Nuclear Non-Proliferation Treaty and the Treaty of Tlatelolco.

Since the successful conclusion of the third NPT Review Conference in September 1985, the U.S. has continued an intensive effort to increase adherence to the NPT. During this time, the U.S. has approached approximately 20 non-parties, including the significant non-parties -- Argentina, Brazil, India, Pakistan, Israel, and South Africa. We believe that it is useful to underscore to all non-parties our firm belief that the NPT is vital to international security and stability.

Since the 1985 NPT Review conference, five additional

countries have become parties -- Colombia, Malawi, North Korea, Trinidad & Tobago, and the Republic of Yemen (Sanaa). We also have indications that others may be close to joining.

Nations can also make a commitment not to acquire nuclear explosives by adhering to the Treaty of Tlatelolco -- which establishes a Latin American nuclear free zone. The United States is not eligible to be a party to the Treaty, but has adhered to its protocols. In our periodic discussions of nuclear affairs with various Latin American countries, we continue to reaffirm our support for the Treaty. I would also note that we have offered to have U.S. safeguards experts advise on our own experience with IAEA safeguards so as to allay any concerns which countries might have over the possible compromise of proprietary information as a result of safeguards application.

Technical Efforts and Export Controls

A key element of U.S. nuclear non-proliferation efforts is the implementation of an effective system of export controls. The Administration believes that we have met this challenge successfully with our domestic system of export controls, and we have also achieved significant progress in our efforts to improve export control systems worldwide.

We continually alert other supplier countries of specific export transactions which have come to our notice and that may raise proliferation concerns. In some cases, the U.S. government may have already denied export licenses for the commodities sought.

Significant progress has also been made in recent years in the NPT exporters group (the Zangger Committee) in refining and upgrading the safeguards trigger list. Two major upgrade efforts dealing with sensitive technologies (gas centrifuge enrichment and reprocessing) have been successfully completed, and we are now in the initial stages of discussions regarding upgrading the list to cover other sensitive technologies.

Another technical effort is the Reduced Enrichment in Research and Test Reactor Program (RERTR). The objective of RERTR is to minimize international commerce in highly enriched uranium (HEU) for use as fuel in research and test reactors. This objective is being accomplished by:

- Developing and demonstrating new high density, low-enriched fuels (LEU) which can be substituted without significant economic and technical penalties for the HEU fuels now required.

- Developing generic data and the calculational methods required to analyze the reactor engineering and safety performance characteristics of the reactors operating with the new LEU fuel.

- Providing technical assistance and support to foreign reactor operators to analyze the effects of converting their facilities to LEU fuels.

Nuclear Terrorism

The potential of nuclear terrorism, i.e. that a terrorist group could acquire a nuclear explosive or nuclear weapons material, has been receiving increased public attention. I think it is useful, therefore, to review for the record the steps which we are taking to prevent nuclear terrorism from becoming a reality.

The United States has a well-developed capability to

evaluate and respond to a threat of nuclear terrorism. Detailed procedures have been developed for responding to any specific threat, whether it arises in the U.S. or elsewhere. The Nuclear Emergency Search Team (NEST) operated by the Department of Energy consists of experts in a wide variety of disciplines relevant to everything from profiling the terrorists to disassembling nuclear devices. These experts, with the equipment which they would need to respond to a nuclear terrorist event, stand ready to respond immediately. Exercises have been conducted which are designed to test our procedures and equipment. A recent training exercise involving all relevant agencies was undertaken, both in Washington and in the field.

The Convention on the Physical Protection of Nuclear Material, which entered into force on February 8, 1987 is an important tool in the effort to prevent nuclear terrorism. The Convention establishes an international framework to strengthen the physical protection of nuclear material during international transport, to increase international cooperation in recovering stolen nuclear material, and obligates all parties to prosecute serious offenses involving nuclear material or to extradite the offenders. The Convention entered into force on February 8, 1987. Over the last several years, we have worked hard to gain widespread adherence to the Convention. This has included both efforts through the IAEA and directly with individual countries.

As part of our own bilateral cooperation, the U.S. requires assurances from our cooperating partners that U.S. exports and

retransfers are subject to physical protection measures which meet at a minimum international standards as contained in IAEA INFCIRCS 225 or 254.

The NRC and DOE, the two agencies with domestic responsibility for physical protection of civil nuclear activities, have a long-standing program of bilateral technical exchanges with their counterparts in countries with which we have active cooperation. These exchanges include visits to nuclear facilities in these countries, and foreign experts also visit facilities in the U.S. Additionally, DOE national laboratories are engaged in research on improvement of physical security measures.

Finally, Mr. Chairman, pursuant to the Omnibus Diplomatic Security and Anti-Terrorism Act, the Department of State and the other relevant agencies are now completing their reports required by Section 604 on the international physical protection standards applicable to the shipment and storage of plutonium and HEU subject to U.S. consent rights. I anticipate that these reports will be transmitted to Congress in the very near future.

Based on the Section 604 reports, the Department of State is also in the process of preparing a report to the Director General of the IAEA, as required by Section 601 of the Act, on the adequacy of the IAEA's recommendations for the physical protection of nuclear material to deter threat, sabotage, and the use of nuclear facilities and materials in acts of international terrorism.

Organization of U.S. Non-Proliferation Efforts

Mr. Chairman, I understand that the Committee is interested in discussing the organization of the U.S. Government with respect to the development and implementation of non-proliferation policy. As I testified on previous occasions, non-proliferation policy is carried out not just by the Department of State, but also by other parts of the Executive Branch, including National Security Council staff, the Office of Management and Budget, the Arms Control and Disarmament Agency, and the Departments of Energy, Defense, and Commerce. The Nuclear Regulatory Commission also plays a key role as the nuclear export licensing agency, in its reviews of subsequent arrangements, its efforts supporting IAEA safeguards, and its participation in discussions of physical security with foreign countries.

With regard to my own role, the announcement by the President of my nomination to be Ambassador-at-Large stated that the Ambassador-at-Large will "coordinate and direct U.S. non-proliferation efforts." I represent the President and the Secretary in discussions and negotiations on non-proliferation matters with other governments, before the Congress, and in other public fora.

The USG devotes substantial resources both in terms of budget and personnel in pursuit of our non-proliferation goals. At the State Department alone, our best estimate is that almost 40 man-years of effort is devoted to non-proliferation and nuclear energy matters each year -- and this does not even

include our Mission in Vienna or the time expended by staff in our other overseas posts. Our appropriation for the voluntary contribution to the IAEA contains \$6 million for the POTAS program and \$1.5 million for other research and assistance to the non-proliferation area.

At the Department of Energy, substantial resources, both in terms of manpower and dollars, are devoted to non-proliferation. It should be noted that DOE, as the nation's designer and producer of nuclear weapons, has large resources to consider the different policy and technical issues associated with non-proliferation, nuclear export control, and technology transfer questions.

ACDA's Bureau of Nuclear and Weapons Control has approximately sixteen professional staff dedicated to international nuclear affairs and nuclear safeguards. ACDA also expends approximately \$5 million in support of non-proliferation efforts, including the RERTR program.

The Commerce Department devotes approximately four man-years to its nuclear component licensing activities, while the Defense Department has a separate non-proliferation office with four professional staff. Finally, the JCS contributes to the review of physical security measures applicable to nuclear material transfers.

In short, Mr. Chairman, the Executive Branch devotes significant budgetary and personnel resources to our non-proliferation efforts.

Looking to the Future

Mr. Chairman, the Administration has a record of non-proliferation effort and positive results of which we can be proud. Over the past few years, we have seen:

- A successful NPT Review Conference and new adherents to the NPT
- Upgrades in international trigger lists for export controls
- A strengthened IAEA safeguards program
- Productive discussions with the Soviet Union on non-proliferation
- The negotiation of important new and amended agreements for cooperation
- The development of an enhanced nuclear safety program in the IAEA and the NEA
- Successful negotiation of nuclear accident reporting and emergency assistance conventions
- Reduced politicization in the IAEA
- Increasing sensitivity by emerging suppliers, including China, South Africa, and Argentina to the need for IAEA safeguards on their own nuclear exports
- An increased dialogue between the United States and non-NPT parties
- The Convention on the Physical Protection of Nuclear Material brought into force.

Obviously, serious problems remain, but overall there has been continued progress on non-proliferation. The regime is being gradually strengthened, and we take heart from the progress and continue to work on those problems that need to be addressed.

For the future, I believe that the following will require our greatest attention:

--Seeking the acceptance of full-scope safeguards by the major non-NPT parties - and in particular obtaining a successful resolution in South Asia.

--Improving safeguards for sensitive technologies.

--Providing the necessary resources for the expanding demands on the IAEA safeguards program.

--Harmonizing the export control programs of nuclear suppliers, with special attention to the increasingly difficult problem of so-called "dual use" items, and involving the emerging suppliers in that effort.

--Exploring the possibility of an international plutonium storage regime that could help contain the spread of sensitive technology and weapons useable materials.

Conclusion

Mr. Chairman that concludes my formal statement. I would now be pleased to respond to any questions which you or other Members of the Committee may have.

October 10, 1986

LEGAL ISSUES1. BASIC AUTHORITIES

1. DOES THE DEPARTMENT OF ENERGY (DOE) HAVE THE LEGAL AUTHORITY TO ACQUIRE BY PURCHASE WNP-1 FOR THE PRODUCTION OF TRITIUM?

The Atomic Energy Act of 1954 ("Act") provides at Section 161 g that the Commission in the performance of its functions is authorized to:

"acquire, purchase, lease and hold real and personal property . . . as agent of and on behalf of the United States, subject to the provisions of section 174 [which provides for the approval of title by the U.S. Attorney General]." (Emphasis added.)

There also appears to be a potential separate base of authority to acquire WNP-1. The Act defines a "production facility" to mean "any equipment or device determined by rule of the Commission to be capable of the production of special nuclear material in such quantity as to be of significance to the common defense and security, or in such manner as to affect the health and safety of the public." (Emphasis added). (Section 11 v). We have not confirmed that DOE has the procedures in place to promulgate such a rule.

The Act authorizes the "purchase of any interest in facilities for the production of special nuclear materials . . . [and] to requisition, condemn, or otherwise acquire any such interest in such production facilities. . . ." (Section 43).

Therefore, DOE has the authority to acquire WNP-1 by purchase.

2. DOES DOE HAVE TO SOLICIT COMPETITIVE BIDS IN ORDER TO ACQUIRE A "PRODUCTION FACILITY" UNDER 161 g?

It does not appear that competitive bids will be required because of certain exceptions set forth in the Competition in Contracting Act and other statutes.

3. WILL DOE NEED SPECIFIC AUTHORIZATION AND APPROPRIATIONS IN ORDER TO ACQUIRE WNP-1?

Yes. Although not the usual DOE procedure, specific authorization and appropriation legislation will be needed because of the complexity and sensitivity involved in this project.

4. WILL THE NRC HAVE LICENSING JURISDICTION OVER WNP-1 AFTER IT IS ACQUIRED BY DOE?

The NRC will not have jurisdiction over WNP-1. The Act states that "Nothing in this chapter shall be deemed -- a. to require a license for . . . (2) the construction or operation of facilities under contract with and for the account of the Commission. . . ." (Section 110). More importantly, the NRC is not a "person" subject to licensing by the NRC. (Sections 11s and 101).

5. DOES DOE HAVE THE LEGAL AUTHORITY TO ACQUIRE WNP-1 BY LEASE?

Section 161 g of the Act provides DOE with authority to acquire property by lease. Section 41 of the Act, however, requires that DOE be the sole owner of its production facilities.

6. DOES DOE HAVE THE LEGAL AUTHORITY TO ACQUIRE WNP-1 BY CONDEMNATION?

Yes. Section 43 of the Act provides DOE with specific authority to condemn any interest in a production facility capable of producing special nuclear fuel

Section 161 g of the Act provides authority for DOE to acquire real property to undertake activities authorized therein. This would also provide the authority for the Secretary to acquire property by condemnation. See United States v. 40.75 Acres of Land in Du Page Co. Ill., 76 F. Supp. 239 (D.C. Ill. 1948) (AEC condemnation of land under general AEC acquisition authority).

Federal law provides that: "in every cause in which . . . any . . . officer of the Government has been, or hereafter shall be, authorized to procure real estate . . . he shall be . . . authorized to acquire the same for the United States by condemnation. . ." 40 U.S.C.

§257. Therefore, an exercise of section 161 g authority by DOE would also authorize DOE to acquire the property by condemnation.

7. DOES DOE NEED ADDITIONAL LEGISLATION TO INITIATE AND COMPLETE THE ACQUISITION OF WNP-1, INCLUDING THE NECESSARY FUNDING?

Prior to obtaining title to WNP-1 by eminent domain, DOE must obtain adequate appropriations to cover the cost of the Constitutional requirement of paying just compensation to WPPSS.

Department of Justice (DOJ) lawyers (Land Acquisition Division) have informally advised DOE that obtaining incremental appropriations to pay just compensation once title is obtained most likely would be unconstitutional.

8. WHAT KIND OF CONDEMNATION PROCEDURES ARE AVAILABLE?

There are two types of procedures available pursuant to Federal statutes.

First, DOE may proceed by filing a Declaration of Taking under 40 U.S.C. §258a. Under this procedure title to the land passes immediately to the Government at the time the Government deposits the amount it estimates as just compensation into the registry of the court. The drawback to this procedure is that at the time of the taking, DOE will not know what the final cost of the acquisition will be. The reason is that once a Declaration of Taking is filed, the Government must accept title and pay any deficiency judgment awarded by the court as just compensation with interest from the date of filing.

The second procedure is condemnation by filing a straight condemnation suit by way of a complaint in the appropriate district court. Under this procedure title does not pass to the Government until the district court renders a judgment on the taking and just compensation issues. The advantage of this procedure is that the Government will know the amount of funds it needs to acquire the facility at the time title passes. The disadvantage is that the Government will not have possession or title during the legal proceeding.

Finally, we are advised by DOJ lawyers that the Government may withdraw from the second procedure at any time prior to the passing of title.

II. STATE LEGISLATIVE AND WPPSS ADMINISTRATIVE ACTIONS IN A NON-CONDEMNATION ACQUISITION

1. WOULD STATE LAW INCUMBER WPPSS IN ITS EFFORTS TO SELL WNP-1 TO DOE?

Yes. State law permits WPPSS to terminate and dispose of WNP-1 upon a vote of its Board of Directors. Before the Board may so vote it must determine that the property is no longer useful or necessary to WPPSS operation, or obtain voter approval of the proposed disposition.

2. WHAT IS THE ROLE OF THE PACIFIC NORTHWEST POWER AND CONSERVATION PLANNING COUNCIL?

Authorized by Public Law 96-501, the Council prepares Regional Plans, including a 20-year demand forecast, and recommends to the BPA Administrator the approximate amount of power to be acquired to meet this demand. BPA's acquisition of resources must generally be consistent with the Regional Plan in effect at any given time. Due to WPPSS' inability to finance completion of construction, WNP-1 is included in the current Plan as only an optional resource for use in meeting long-range demands (around 2000). If, following DOE acquisition, WNP-1 is converted to a firm resource, this change would need to be reflected in the Plan.

3. OTHER RELATED QUESTIONS:

- a. What Council actions will be required to reflect DOE acquisition of WNP-1? What BPA action will be required in response to Council actions and recommendations, e.g. will BPA ask DOE to assign the WNP-1 capacity to it?
- b. If necessary to acquire WNP-1 capacity, can BPA finance the completion of construction of WNP-1 through (a) new net billing agreements, amendments, or extensions, (b) issuance of BPA bonds, or (c) issuance of BPA guarantees of WPPSS bonds?

- c. Will DOE be willing to provide electrical generation on terms requested by BPA? For example, will it provide interruptible service, whether or not the reactor is being operated for the production of defense materials? Will special authorizing legislation be required to permit such operation?

III. LITIGATION

1. WHAT IS THE IMPACT OF WNP-4/5 REVENUE BOND DEFAULT LITIGATION ON WNP-1?

The creditors, including bondholders, of WNP-4/5 are moving against WPPSS and other parties, in tort, for negligence, misrepresentations, and breach of contract alleged to have occurred during the period of issuance of WNP-4/5 bonds and other debt and which ultimately resulted in the default of WPPSS on the WNP-4/5 bonds and loans. (In RE WPPSS Securities, Ninth Circuit Court of Appeals). Because, pursuant to Washington law, virtually all revenues derived individually from ownership and operation of WNP-1/2/3 and pledged individually and by means of special funds (permitted under RCW 43.52.3411) to the payment of obligations for each of the independent projects, the WNP-4/5 creditors have been unable to reach the assets of WNP-1/2/3, including moneys in the Special Funds. If the WNP-4/5 creditors prevail in the tort litigation, they must then attack the Chinese Wall erected by the Special WNP-1/2/3 Funds (and the Bond Resolutions creating them) in an effort to obtain a judgment lien on WNP-1/2/3 properties and ultimately the United States. While the Chinese Wall may be attacked on several grounds, the potential for plaintiff success in the litigation should have no implications for DOE's acquisition on WNP-1 so long as clear title to the facility can be taken at time of conveyance.

This can be achieved, prior to purchase, by ascertaining all interests in WNP-1 and extinguishing such claims prior to conveyance. In the case of WNP-4/5 creditors - plaintiffs, there should be no actual property interest in WNP-1, unless a judgment is rendered against WPPSS and an alien is levied on the facility, before conveyance of WNP-1 to DOE is completed. If, prior to judgment levy, WNP-1 has been transferred to DOE with clear title, the WNP-4/5

creditors will have only the proceeds therefrom, then in WPPSS' hands, against which to make their claims.

2. CAN DOE TAKE TITLE TO WNP-1 CLEAR OF ALL CLAIMS OF THE WNP-4/5 CREDITORS, PRIOR TO A RENDERING OF JUDGMENT IN THEIR FAVOR IN THE PENDING SECURITIES LITIGATION/

WNP-1 LEGAL REVIEW

- Two major areas of concern.
 - Basic authority to acquire WNP-1 for conversion to a production reactor; and
 - Impact of WPPSS litigation on acquisition.
- DOE has authority to acquire.
 - Atomic Energy Act and generic.
 - Because of the WPPSS litigation, condemnation is the preferred method of acquisition.
 - Although basic authority to condemn WNP-1 exists, legislation will be required because of the complexities involving acquisition and conversion including
 - Need to avoid a default under the WNP-1 bond resolution by providing that transfer will be by operation of law;
 - The need for specific authority to acquire for the production of plutonium (a special nuclear material) and tritium (not a special nuclear material);
 - The need for an expedited condemnation proceeding, including appeals;
 - The need for guidelines for the sale of steam or electricity;
 - The need for modification of NEPA compliance in regards to the number of alternative sites that must be condemned; and
 - The possible need for relief from some of the requirements of the Competition In Contracting Act (CICA).
- The WPPSS litigation
 - Three categories
 - a. The WNP 4 and 5 (not backed by "net billing") bondholders have brought several actions, including action against WPPSS for fraud and breach of contract and BPA for negligence under the Federal Tort Claims Act.

- b. WNP 4 and 5 were to have shared certain facilities with WNP 1 and 3 (projects backed by net billing). The utilities which financed WNP 4 and 5 are alleging that \$900 million in construction costs were improperly allocated to WNP 4 and 5 from WNP 1 and 3.
 - c. Finally, the "Chinese Wall" litigation involves an attempt by the WNP 4 and 5 bondholders in the event they receive judgment against WPPSS the litigation described in a. above, to attack (get across the Chinese Wall) the assets of WNP 1, 2 and 3, which all are backed by BPA (through "net billing").
- WPPSS Litigation Impact on Condemnation of WNP-1
 - WNP 4 and 5 bondholders may intervene in condemnation proceeding or otherwise seek to encumber or claim the proceeds paid for WNP-1.
 - BPA's ratepayers may intervene because they have been subsidizing WNP units 1, 2 and 3 for several years.
 - The WNP-1 bondholders may intervene if full amount paid by DOE does not equal the amount of money owed and if the net billing arrangements are in jeopardy.

REMARKS OF

LEWIS A. DUNN

ASSISTANT DIRECTOR

FOR

NUCLEAR AND WEAPONS CONTROL

U.S. ARMS CONTROL AND DISARMAMENT AGENCY

BEFORE THE

COMMITTEE ON GOVERNMENTAL AFFAIRS

UNITED STATES SENATE

ON

NUCLEAR NON-PROLIFERATION ISSUES

FEBRUARY 25, 1987

I appreciate the opportunity to appear before the Senate Governmental Affairs Committee to offer some brief remarks on the Administration's non-proliferation policy.

One of the most critical challenges in international affairs is preventing the spread of nuclear explosives to additional countries. In particular, the introduction of nuclear weapons into volatile regions would seriously inflame tensions, threaten the security interests of the United States and all nations, and have long-lasting, destabilizing global effects. The Administration is strongly committed to non-proliferation as a fundamental national security and foreign policy objective.

As Ambassador Kennedy's testimony makes clear, the Administration has been vigorously pursuing policies to prevent proliferation. The record of positive achievements since President Reagan's non-proliferation policy statement of July 16, 1981 is clear:

- (1) The Treaty on the Non-Proliferation of Nuclear Weapons (NPT) has been strengthened. US diplomatic efforts have helped to increase the number of parties to 135, over 20 of which have joined since 1981. Further, the NPT Review Conference of 1985 reaffirmed the importance of this Treaty to the security of all nations.

- (2) The Latin American Nuclear Weapons Free Zone embodied in the Treaty of Tlatelolco and its Protocols was brought closer to entry into force throughout the region by the US deposit of its instrument of ratification of Protocol I in 1981.
- (3) The International Atomic Energy Agency (IAEA) has been strengthened through vigorous US efforts to reduce extraneous political controversy and through continuous US support for improving IAEA safeguards and the delivery of technical assistance.
- (4) The nuclear export control regime has been improved by tightening US domestic regulations and procedures and by continued international cooperation to upgrade export control lists.
- (5) The negotiation of US agreements for cooperation with Sweden, Norway, Finland, and China has ensured that nuclear cooperation under these agreements will be subject to the upgraded standards established in the 1978 law, and also fostered progress on other non-proliferation objectives. An agreement with Japan is undergoing final review within the Executive Branch.

- (6) The physical protection of nuclear material has been enhanced through improvements in technical measures designed to ensure the safety of plutonium in international transport, through consultations with other countries on physical security matters, and through the entry into force of the Convention on the Physical Protection of Nuclear Material.
- (7) The program to encourage the use of low enriched fuel in research reactors has continued to make progress and has benefited from significant foreign cooperation. There has been a substantial reduction since 1981 in the quantity of high enriched fuel exported from the United States annually for use in foreign research reactors.
- (8) The effort to encourage new nuclear exporting nations to accept responsible supply policies has met with some success. Argentina, China, and South Africa now require that their nuclear exports be subject to IAEA safeguards.
- (9) The maintenance of a dialogue on nuclear issues with Argentina, Brazil, India, Israel, Pakistan, and South Africa has helped them to understand our concerns about their nuclear programs and has contributed to non-proliferation objectives. However,

there has been little progress in moving these countries toward acceptance of broader IAEA safeguards coverage or the NPT or the Treaty of Tlatelolco in the case of Argentina and Brazil.

These and many other issues will continue to pose major challenges for the future. I would like to touch briefly on four of these.

First, the bilateral dialogue to encourage new supplier nations to adopt prudent nuclear export policies should be continued and broadened. Among the questions that should be addressed are the following: How best to set up procedures and mechanisms to ensure that nuclear-related exports serve only peaceful purposes? What items should be controlled? How to ensure the application of IAEA safeguards to exports? and, What policies to adopt towards exports of sensitive items?

Second, the current level of cooperation among the principal nuclear suppliers is good, consistent with the common policies and norms of responsible behavior adopted in the late 1970s. However, there will be continued challenges.

Supplier nations must remain alert to increasingly sophisticated strategies aimed at illegal procurement of items destined for unsafeguarded nuclear programs. The

process of refining export control lists also should continue in order to clarify existing entries on the lists and to keep up with emerging new technologies. In addition, there should be increasing consultation on the export of dual-use items, i.e., equipment having both a nuclear and non-nuclear end use. Finally, major suppliers must continue to avoid significant new nuclear supply commitments to non-nuclear weapon states with unsafeguarded nuclear activities: such countries should not be able to obtain the same significant new foreign assistance as countries that have accepted the NPT.

Third, in unstable regions where the NPT or other standard non-proliferation measures have not been widely accepted, it may be necessary to think creatively about alternative confidence building approaches that could prevent suspicion over unsafeguarded nuclear programs or other activities from increasing the risk of conflict or from escalating to the acquisition of nuclear weapons. South Asia comes quickly to mind. The leaders of Pakistan and India must actively seek ways to head off the prospect of nuclear arms competition. Some tentative steps have been taken, but more can be done. We also support the willingness of the Presidents of Argentina and Brazil to discuss bilateral arrangements that could provide some reassurance of the peaceful nature of their nuclear programs.

Fourth, we need to come to grips with the prospect in the decades ahead of increased use of plutonium as a fuel for civilian nuclear reactors. Our assessment of the nuclear fuel cycle plans of Europe and Japan indicates that their use of separated plutonium will continue to grow over the next decade. Estimates of the amount of plutonium to be reprocessed over the next 15 years range from 100,000 to 400,000 kilograms. United States consent rights for reprocessing will cover less than 25% of this material. Close cooperation will be required among the United States, Europe, and Japan to assure that this plutonium will not add to the risk of proliferation.

Our major concerns in this area are, first, that plutonium and its associated sensitive technologies not expand to regions of tension; and second, that physical protection systems are adequate to prevent the theft and diversion of nuclear materials, particularly during international transport. In addition, we need to address the resource and technical challenges posed for IAEA safeguards on plutonium bulk handling facilities and the administrative arrangements which govern plutonium subject simultaneously to the controls of several states.

To meet this fourth set of challenges, we will continue to work cooperatively with countries with advanced nuclear programs. Our agreement with Japan will help set standards for physical protection and safeguards, while our bilateral

contacts with other suppliers can serve to reinforce the norms against the transfer of sensitive material or technology to regions of tension and to identify ways to improve physical protection measures.

US experts have also been working actively with officials of the IAEA and other key countries to define new and improved safeguards approaches for future facilities using plutonium. Further, we need to continue our efforts to work bilaterally with certain developing countries to assist their development of technologies for managing their spent fuel without reprocessing.

As noted earlier, I believe we have made good progress in a number of these areas during this Administration. We must sustain this concerted effort over the long haul to influence the direction of nuclear programs throughout the world toward a course consistent with our non-proliferation objectives.

Statement of
Richard N. Perle
Assistant Secretary of Defense
for
International Security Policy
Before the
Committee on Governmental Affairs
United States Senate
March 5, 1987

Mr. Chairman:

Let me begin by expressing my appreciation for the opportunity to meet with the Committee on the subject of nuclear proliferation. It is an opportunity that we at the Department of Defense have not often had.

Mr. Chairman, as far ahead as we can foresee, nuclear war will remain a threat¹ to international security. Each week brings an in-box full of issues that concern the nuclear threat posed by the Soviet Union.

But a growing number of issues concern nuclear threats from new sources -- the so-called states of proliferation concern. The absolute size of the Soviet threat is a thousand-fold greater than the largest threat that we estimate from a nuclear proliferant. However, I believe that the greatest likelihood of nuclear weapons being used is in the Third World.

The Committee has asked that I address the relationship between nuclear proliferation and U.S. national security. Does the spread of nuclear weapons, or more immediately the materials and technology to make them, have anything at all to do with our security? Would it increase the risk of war in regions important to American interests? Would it affect how such wars might be fought? Could it make a difference in our ability to conduct military operations, to defend territory or installations? Would it have any implications for force structures, or for military contingency planning? Can the prospect of additional nuclear forces be ignored in the positions we take in nuclear arms control negotiations? Could it increase the risks of a U.S.-Soviet confrontation in any imaginable crisis? Could it trigger a nuclear war? Finally, does the Department charged with primary responsibility for the defense of our national security have a legitimate interest in how -- and in how well -- we resist nuclear proliferation?

To answer these questions, we need only look at the war between Iraq and Iran, where urban areas and oil targets are being struck every week. How would this conflict be waged if the armies were nuclear armed weapons? Even if the rest of the world did not participate in the conflict, what would be the consequence for all of us if nuclear weapons were used against oil facilities in the region? And what are the chances that a regional nuclear exchange would remain regional? Clearly, the proliferation threat belongs high on the agenda of national and international security concerns.

How are we to deal with this threat to international security? Partly by talking with the countries in question -- seeking to persuade them that it is not in their interest to acquire nuclear weapons. But persuasion is likely to be effective only when it appeals to self-interest.

It is in the security interests of each nation that its neighbors, or rivals, not acquire nuclear weapons. However, each state must also consider matching the nuclear programs of its neighbors. Uncertainty may lead to a nuclear arms race. What is required to prevent nuclear suspicions is mutual and reciprocal restraint, buttressed by reliable means of effectively verifying that mutual undertakings are being observed. This is the "essential bargain" in such international agreements as the Nuclear Non-Proliferation Treaty (NPT) and the Treaty of Tlatelolco, by which non-weapons states join with their neighbors in agreeing not to acquire nuclear weapons, and submit their nuclear facilities to international inspection in order to allow verification of their peaceful activities.¹ Such international agreements reduce a major motive for new nations to acquire nuclear weapons -- fear that their neighbors might do so. The Non-Proliferation Treaty began with actions by the non-weapons states themselves -- addressing their own joint concerns independent of the nuclear weapons states. This non-weapons state interest in the Non-Proliferation Treaty deserves our continuing attention and support.

Mr. Chairman, there also has been talk of a different "essential bargain" in the Treaty -- one between the weapons states and the non-weapons states. The notion here -- drawing on Article VI of the NPT which requires "negotiations in good faith" to control nuclear arms -- is that non-weapons states renounce nuclear weapons only because the weapons states eventually will do likewise. Opponents of the Non-Proliferation Treaty sometimes use this argument to rationalize their own nuclear weapons options. More often, those inclined to view nuclear arms control as a morality play (rather than a search for security) misuse it to pressure the nuclear weapons states mindlessly to sign agreements. The argument is dangerous for anyone who supports non-proliferation.

Are we to favor nuclear proliferation if the nuclear weapons states do not disarm? Is the non-proliferation regime to be conditioned on such disarmament? Clearly not: There is a joint interest, an "essential bargain" among non-weapons states for non-proliferation in the interests of shared security, quite apart from the need to reduce the arsenals of nuclear weapon states.

This is not to dismiss Article VI as unimportant. The United States, as a party to the Non-Proliferation Treaty, has observed Article VI -- negotiating "in good faith" for nuclear arms restraint that is verifiable, mutual, and significant. It is in our national interest, not to say the international interest, to do so. But it would not be in anyone's interest, much less the

interests of an arms control regime like the Non-Proliferation Treaty, if we were to cut corners and negotiate restraint that is not quite verifiable, mutual, or significant. And it is not in anyone's interest -- except perhaps that of the Treaty's opponents -- to let impatience with these negotiations obscure the security value of the Treaty itself, or the real "essential bargain" that it enshrines.

Another essential element of the Treaty, and the non-proliferation regime is export control. The 1968 Non-Proliferation Treaty provides for an "inalienable right" to the peaceful, that is non-military uses of nuclear energy, but only "in conformity with" the non-proliferation undertakings of the document. To accomplish this means, unavoidably, export review and export restraint. For many years the United States and other supplier nations, within and outside the scope of the Non-Proliferation Treaty, have practiced export control. Export controls are, in fact, accepted by many states that are not NPT parties, for example, through the Nuclear Supplies Guidelines (NSG).

This does not make export control non-controversial. It is all too common for some nations to dismiss the legitimate concerns of nuclear exporting nations and argue that nuclear supplies must

be exported -- no matter how close they may bring a nation to possession of nuclear weapons. It is argued by some nations that international inspections, the safeguards of the International Atomic Energy Agency, alone permit the exports of sensitive nuclear equipment and materials. We should be wary of these simplifications and this is not the policy of this Administration. The overriding purpose of the Non-Proliferation Treaty is non-proliferation. Any responsible export control policy would weigh against an export of a large amount of plutonium to a likely proliferator.

Safeguards are a critically important element of the non-proliferation regime. They -- and the International Atomic Energy Agency, which administers safeguards play an important role in preventing proliferation. But, even with safeguards, an export of a large amount of plutonium could bring a nation with no existing plutonium stockpiles and with the proper motivations within weeks of possession of nuclear weapons -- defeating the non-proliferation objective of the safeguards themselves in the absence of other security considerations. One should always keep clearly in mind that, depending on a nation's intentions, safeguarded does not necessarily mean safe. Safeguards must be supplemented by export restraint and good judgment. This is an essential element of this Administration's policies.

There is another argument frequently made against export controls -- one being made currently. It is that a determined

nation, can -- with enough time and effort -- circumvent any export regime. At best it is said, export controls can only buy time. But such arguments ignore the real world. Stringent export controls -- with cooperation among supplier nations -- can multiply the cost, time, and manpower requirements for a nuclear weapons program many-fold. High costs and high manpower requirements matter to national decision makers, for whom nuclear weapons must compete with many other national goals. Costs and manpower matter even more to nations struggling for economic development. Export controls not only increase the cost and manpower disincentive for a nation to seek nuclear weapons; they also increase the time required. And time has additional effects.

Time gives other non-proliferation instruments the opportunity to work. Time gives minds the opportunity to change. Time slows down the processes of competition and emulation between neighboring states -- processes that may be driving the nuclear weapons program in the first place.

Beyond this, "buying time" is what much of life is all about. Five-to-ten years here, five-to-ten years there, and eventually you have a lifetime or longer to resolve problems or to see them go away. This is not an idle piece of philosophical theory.

Some European and Third World Nations that, ten or twenty years ago, were on everyone's list of near-term proliferators have now fallen to the bottom of the list or dropped off the list entirely.

Vital as export controls may be, they are difficult to undertake. Being an export controller is a grubby little job -- among the least glamorous but most important national security tasks.

Export controls require persistent attention to detail -- tracking cases, consulting with other domestic agencies, coordinating with other nations, prosecuting violators, and not letting up until the export is blocked or until it can be approved.

Export controls are resource intensive -- requiring skilled people, intelligence capabilities to determine the true end user, technical assessments, and management attention to a series of cases that are individually small but cumulatively significant.

Most difficult, export controls are politically costly, and the costs are much more immediate than the benefits. Export controls require that a nation forgo commerce and may cause diplomatic irritation. Export controls require that one apply general policies to a specific case where the friendship and the relationship with another country may be highly valued. It is regrettable that this must be done, but it is the only way to maintain an effective non-proliferation regime.

If we are serious about non-proliferation we will need the political will, the persistence, the patience, the attention, and the foresight to pay these costs. There are few other international security goals that matter more.

Mr. Chairman, as you know, I have spent much of my professional life seeking realism and resources to contain the ambitions of the Soviet Union -- particularly their nuclear threat. If we continue the sound policies that have been established, I am optimistic that we can contain that threat. With respect to nuclear proliferation, however, I find the future more ominous. Proliferation can threaten U.S. defense and national security interests across the board and, despite our deterrent, it creates a real risk that nuclear weapons might actually be used -- against our friends or against our own military forces. Here is a threat that deserves sustained attention from the national security community.

Department of State

INCOMING
TELEGRAM

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PAGE 01
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E.O. 11652: GDS

TAGS: FARM, TECH, IR

SUBJ: HIGHLY ENRICHED URANIUM (HEU) EXPORT TO IRAN

REF: STATE 105139

1. WHILE WE APPRECIATE THAT REQUEST FOR 20.2 KILOGRAMS OF HIGHLY ENRICHED URANIUM FOR TEHRAN RESEARCH REACTOR FAR EXCEEDS FUEL CEILING PROVIDED FOR IN EXISTING BILATERAL RESEARCH AGREEMENT, WE ARE CONCERNED THAT REFUSAL WILL FEED GOI'S WORST FEARS CONCERNING RELIABILITY OF US AS FUTURE SUPPLIER OF NUCLEAR MATERIALS. AGAINST BACKGROUND OF MAY 4 PRESIDENTIAL ANNOUNCEMENT OF APPROVAL OF SIGNIFICANT QUANTITIES OF HEU TO 8 PROJECTS IN CANADA, THE NETHERLANDS, JAPAN, BELGIUM, AND FRG, SUSPICIONS WILL ALSO BE FED THAT US HAS AND WILL CONTINUE TO DIFFERENTIATE BETWEEN VARIOUS CUSTOMERS IN FAVOR OF THE INDUSTRIAL WEST. JUXTAPOSITION OF THIS DEVELOPMENT WITH SECRETARY'S IMMINENT ARRIVAL AND EXPECTED DISCUSSION OF FUTURE US/GOI COOPERATION IN NUCLEAR ENERGY FIELD SEEMS UNFORTUNATE.

2. WOULD APPRECIATE URGENTLY THEREFORE FURTHER CLARIFICATION OF PARA THREE REFTEL AND INDICATION OF WHETHER IT LIKELY AMENDMENT TO EXISTING BILATERAL RESEARCH AGREEMENT CAN BE REACHED QUICKLY TO ACCOMMODATE EXPORT REQUEST. IF NOT, WOULD APPRECIATE FULLER EXPLANATION OF WHAT OUR POSTURE IS OR LIKELY TO BE WITH RESPECT TO THIS AND OTHER FUEL REQUESTS

MIRLOS

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TELEGRAM

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Department of State

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TO AMEMBASSY TEHRAN

CONFIDENTIAL STATE DISSEM

E.O. 11652: GDS

TAGS: FAPR, TECH, ENCL 20

SUBJECT: NEW EXPORTS TO ITALY

REF: (A) TERRAS 4194⁹ (B) STATE 185139

2. UNDER THE EXISTING AGREEMENT FOR COOPERATION, AS AMENDED, USG CANNOT INCREASE EXPORTS OF HU IN EXCESS OF 6 RC CELLS.

2. ON APRIL TWENTY, LAST, THE HOUSE OF REPRESENTATIVES PASSED LEGISLATION THAT EXTENDED THE DEPARTMENT OF INFORMATION POLICY BILL OF 1972. THE BILL CONTAINS PROVISIONS ON THE CONDITIONS OF EMPLOYMENT IN NEW AGREEMENTS FOR COOPERATION. MEASURES OF THIS BILL ARE A UTTERANCE AND WE HOPE FOR EARLY PASSAGE. Once the bill is passed, we expect to resume negotiations with Iraq on a new bilateral agreement for cooperation.

3. AS EMBASSY IS AWARE THE ARAB AGREEMENT WITH WAS UNDER NEGOTIATION LAST YEAR WAS DESIGNED TO GIVE EGYPT POWER AND REGIONAL INFLUENCE AND THEREBY WAS A TENDENCY TO SURVIVEL OF EGYPT AS A REGIONAL AND EGYPTIAN THAT ARE, AND ALTHOUGH THESE ISSUES WILL BE THE MOST EXPEDIENT WAY TO GET IT AGREED FOR FULL POWER

EVEN WHEN AN DEFERMENT IS CONSIDERED THE GUIDELINES OUTLINED IN PARA 4, REF B WILL CONTINUE TO APPLY FOR REG AND NRC. ISSUES FOLLOWS IN THE EMPLOYER AND JAPANESE FOR EMPLOY CASES REFERRED TO IN REF A, I.E., PRESIDENTIAL APPROVAL HAS OBTAINED.

THE PRESIDENT'S CONCERN ABOUT IDENTITIES OF HIS
ABROAD IN THE PASTORAL THAT HE HAS SIGNED, SHOWING
WILLINGNESS TO BE INTERVIEWED, OR STATE AS A SPECIAL
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5. IN THE MEANTIME, AS NOTED IN PARAGRAPH 3, APPLICATION WILL BE KEPT IN SUSPENSE. GENERAL ATOMIC APPLIED FOR THIS INCREASED QUANTITY OF HEU IN ORDER TO REPLACE EXISTING FUEL ELEMENTS IN TEMPORARY RESEARCH REACTOR WITH TRIGA-TYPE FUEL AND STEP UP POWER LEVEL FROM 10 TO

TEXT OF AMBASSADOR DEANE HINTON'S SPEECH, FEBRUARY 16, 1987

REFLECTIONS ON NUCLEAR ISSUES IN SOUTH ASIA

Mr. Chairman, General Matinuddin, ladies and gentlemen:

It is a high honor and a distinct personal privilege for me to address the institute of strategic studies. I am grateful to you for your invitation and particularly for the opportunity to be one of the first speakers in your splendid new facilities. In America, the role of such "think tanks" is recognized as indispensable for the formulation of sound public policy. This is done by conducting analytical research, by informing the public, by stimulating discussion of policy issues, and by promoting a dynamic interaction among academics, Government officials, and concerned citizens. That your institute and other research institutions are promoting this kind of policy dialogue bodes well for the future of Pakistan.

Today, I want to challenge you to consider with me one of the more sensitive issues confronting you and the world. I speak of nuclear weapons and non-proliferation policy. My intention is both to inform you about American policy and views, and to provoke you, if I can, into thinking hard about the pros and cons of nuclear weapons for Pakistan. I venture to do this, despite the evident pitfalls, for two reasons. First, it is my official responsibility to advance United States views. Second, I speak out of respect, appreciation, and warm affection for your country and people. I am anxious that Pakistanis not let events carry them forward willy-nilly but rather that they reflect deeply on the issues before taking a fateful decision. The decision, let me be clear, is Pakistan's to make, and only Pakistan's, but whatever it is, it will have profound consequences not only for Pakistan and its immediate neighbors, but for others as well, including the United States.

When in the past I have touched on nuclear issues, all too often editorials have appeared saying in effect the Americans have nuclear weapons, but they selfishly do not want us to have them. If they are so determined to keep them from us, the argument continues, they must have ulterior motives; thus, we certainly must work all the harder to attain nuclear weapons status. The appeal of such editorials to nationalist fervor is high. It seldom seems to occur to the authors that there might just be some disadvantages to nuclear weapons. Moreover, editorialists or politicians or others discussing nuclear issues all too often fail to separate issues related to developing peaceful applications of nuclear energy from issues relevant to weapons programs. What little serious discussion of atomic weapons I have seen, for example in the "Defense Journal", strikes me as relatively unsophisticated. While making the case for a deterrent to offset Indian conventional superiority, critical arguments about the stability of nuclear deterrence are rarely examined. Among the questions you might examine are:

Would it be in Pakistan's interest to stimulate India to develop and deploy nuclear weapons?

In what circumstances, if any, could nuclear weapons rationally be used?

Would the existence of such capabilities be stabilizing or destabilizing?

What exceptional command and control measures would be required to avoid mistaken use of nuclear weapons?

Are there other policies and other uses for resources that would better advance Pakistan's national interests?

Would Pakistan be better or worse off if it gained international cooperative support for its peaceful nuclear program by permitting international inspection of all its facilities?

Before developing further my nuclear theme, let me outline how I view the present state of Pakistan-U.S. relations.

THE PAKISTAN-U.S. RELATIONSHIP

The relationship between Pakistan and the U.S. has gained new strength and maturity since 1981. We are pursuing—often in close cooperation—a number of important shared goals.

We share a common abhorrence of the Soviet invasion of independent Afghanistan. The U.S. stands squarely with Pakistan on the need to negotiate a political settlement based on the prompt withdrawal of Soviet troops from Afghanistan and self-determination for the Afghans.

We share a common perception of the importance of stability in the Gulf area. Here Pakistan, which enjoys important links both with Iran and the Gulf States, plays a special role in helping to secure peace in a troubled region.

We each view relations with the Peoples' Republic of China as a cornerstone of our foreign policies—indeed the United States will always be grateful to Pakistan

for the important intermediary role it played in bringing about the normalization of Sino-U.S. relations.

Within Pakistan, we have welcomed and supported the restoration of representative, civilian government. While it is for the people of Pakistan to shape their government, we would be untrue to our history we were not to express our conviction that democratic institutions embodying the interests of individual citizens are, ultimately, the best protectors of a nation's security and well-being.

We and the Government of Pakistan are working together to secure other common objectives; for example, allowing a freer hand to market forces in order to promote faster economic growth, and curbing narcotics production and trafficking in order to maintain a healthy society.

One strength of our maturing relationship is our ability to face up to the areas in which we have differences. One such area relates to nuclear weapons. While we agree that the South Asian subcontinent should be free of nuclear weapons, we differ on how to attain this goal. How the question is resolved is important for us and for you. A miscalculation by either of us could

Produce a crisis in our relations;

End our economic and military assistance programs;

Also, within the region, a miscalculation could:

At best, greatly increase tensions between Pakistan and India;

At worst, lead to a nuclear war with perhaps millions of casualties.

THE NUCLEAR DILEMMA

May I insert a personal note? It happened that when the United States entered World War II I was a student at the University of Chicago where, in 1943, under the university football stadium, Enrico Fermi achieved the world's first controlled nuclear reaction. This step was part of a program launched by President Roosevelt who was prompted to act by reports that Nazi Germany was developing nuclear weapons. At the time I knew nothing of these historic developments. I learned of the nuclear age only in August 1945 when, en route from an army staging area outside Naples to board a transport which was to carry my unit to the Philippines for the invasion of Japan, I read of Hiroshima in the Army paper, "The Stars and Stripes." Since we went home instead of to the beaches of Honshu, I have never been one to criticize the use of nuclear weapons in 1945. But, as the potential of these weapons to end civilization as we know it became apparent, I and hundreds of millions more, including Chairman Gorbachev, came to share President Reagan's view that "nuclear war cannot be won and must never be fought."

Most simply, the nuclear dilemma, the problem and the promise, arises from the fact that the technology which unleashed the atom has the potential to do great good or enormous harm.

Splitting the atom can produce needed electrical power and isotopes of immense value for research purposes. But atom splitting and fusion technology can also produce terrifying weapons of mass destruction.

It is precisely because fissile material, plutonium and enriched uranium, can be used either for peaceful purposes or for weapons that the International Atomic Energy Agency (IAEA), since its creation in the 1950's, has had as one of its central functions the operation of a system of safeguards. The IAEA utilizes various verification techniques to ensure, on an international, almost supranational basis, that fissile material is not diverted from peaceful uses into weapons programs.

The safeguards system is also incorporated into the Non-Proliferation Treaty (NPT). The NPT provides assurance, both to one's neighbors and particularly potential adversaries, that an NPT signatory is not secretly developing weapons. Looked at another way, some view the treaty as constituting a "bargain" between weapons and non-weapons states—the former accepting a good faith obligation to reduce, and ultimately eliminate nuclear weapons; the latter renouncing nuclear explosives and accepting IAEA safeguards in exchange for assurances of access to nuclear materials and technology.

It is instructive, I think, to look at some of the countries that have faced regional threats, had the potential to produce nuclear weapons, but instead chose to renounce such weapons and to sign the treaty on non-proliferation (NPT). The Federal Republic of Germany, Japan, Korea, Taiwan, Turkey, Sweden, and most recently Egypt, are all in this group. Overall, there are over 130 nuclear non-weapons states party to the treaty.

Each case is different, but the case of neutral Sweden is particularly interesting. At one time, Sweden embarked on an active program to develop nuclear weapons.

However, after extended consideration, the Swedes decided they would be more secure without atomic bombs than with them.

The United States, the Soviet Union, and the United Kingdom are parties to the Non-Proliferation Treaty. France has agreed to act as if it were a party. China, while not a party to the treaty, has agreed to some of the obligations for a nuclear weapons state. The Soviet Union and its allies also cooperate with Western Countries in the International Atomic Energy Agency and in the London Suppliers Group—an informal group of nuclear exporting states which meets regularly to coordinate export and safeguards policy in support of NPT objectives and provisions.

U.S. NON-PROLIFERATION POLICY

American policy on non-proliferation is based on a remarkable degree of long-standing consensus between both our major political parties—a consensus which reflects the intensity of public concern about the threat of nuclear proliferation and the possibility of nuclear war.

The U.S. during the 1950's and early 1960's, was the first to share peaceful nuclear technology. Our "atoms for peace" program helped a number of countries, including Pakistan, to get a start on the peaceful uses of nuclear energy. As one result, many isotopes are today beneficially used in Pakistani facilities for medical, industrial, and agricultural development. For example, atomically mutated seeds developed in your agricultural nuclear research laboratory in the Punjab played a major role in increasing cotton yields.

On the other hand, early arms control efforts to end the nuclear danger, such as the Baruch Plan, came to naught. With the passage of time, nuclear arsenals grew and increasingly sophisticated delivery systems evolved both in the West and in the Soviet Union and China. Successive American Presidents and Soviet Chairmen, concerned about the risks and responsive to world opinion, sought arms control agreements. Unfortunately, until now there has been more disagreement than agreement. We did reach agreement with the Soviet Union on a ban on atmospheric testing, limitations on anti-ballistic missile systems, and some restraints on strategic systems. Progress, albeit minor, has also been made on confidence building measures outside the nuclear arena, like the recently completed pact on notification of maneuvers in Europe.

At Geneva in 1985, the United States and the Soviet Union agreed on a goal of reducing nuclear warheads by fifty percent as a substantial step toward eventual elimination of nuclear weapons. At Reykjavik in 1986, the President and the General Secretary went much further, almost agreeing on the total elimination of nuclear missiles in ten years and on a commitment for reliable verification, a key ingredient of any such nuclear agreement. Negotiations are continuing and I believe the promise of Reykjavik will yet be fulfilled.

The aim of the Reagan Administration, like that of U.S. Administrations before it, is to halt and roll back vertical nuclear proliferation, to prevent further horizontal proliferation, and to steer nuclear development toward peaceful applications in energy, medicine, industry, and agriculture. On the one hand, we will do whatever we can diplomatically to guard against additions to the list of nuclear weapons states. On the other hand, we will provide generous support for fully safeguarded peaceful nuclear development. For example, after Egypt signed the non-proliferation treaty we offered Egypt assistance in the construction of a large nuclear power reactor.

As Reykjavik demonstrated, we share your view about the continued dangers of vertical proliferation by nuclear weapons states. We know that the management and the command and control of nuclear weapons systems are an exacting business that has sorely taxed U.S. and Soviet leaders. Indeed, we are painfully aware of a number of near disasters. We also believe horizontal proliferation would make more likely increasing international instability and catastrophic nuclear war. On the way, the threat also increases of seizure and possible use of nuclear weapons and material by terrorists—the bane of today's civilized world—or even by dissident military units in times of civil war. A special U.S. concern is escalation in the event of a nuclear clash between regional states to which the United States or the Soviets may have commitments. A broadening regional nuclear war, drawing the United States and the Soviet Union into confrontation, is one conceivable way in which a catastrophic U.S.-Soviet nuclear exchange could be triggered.

MISPERCEPTIONS

A number of recent statements that I have noted in the Pakistan press about U.S. non-proliferation policy have, in my view, been wide of the mark. Accordingly, I

would like for a moment to identify and comment on a few of these misperceptions about our policy, especially vis-a-vis South Asia.

How many in this room believe we are paranoid about the possibility of a Muslim nuclear weapon, that is, 'the Islamic bomb'? In fact, that is not our concern. Our concern would be the same whether the next proliferator were Christian, Hindu, Jewish, Muslim or atheist. We are opposed to any further spread of nuclear weapons. The important point is that each country that acquires nuclear weapons adds to uncertainty and heightens the risk of nuclear war. Each country that crosses the threshold weakens the chance that nuclear weapons will be eliminated world-wide. More states acquiring nuclear weapons increases the danger to the world.

How many times have we all heard the NPT term "discriminatory"? Are we indeed imposing our views on a world that does not share our concerns? I think not. Most of the world does share our concerns. The NPT has been adopted by over 130 countries—over 20 just since 1980. Even among countries not party to the treaty, most agree with the key objectives of the treaty: Preventing the further spread of nuclear weapons, fostering peaceful nuclear cooperation under verifiable safeguards, and encouraging negotiations to end the nuclear arms race with a view to general and complete disarmament. The NPT system may be imperfect, but it is a uniquely constructive element in the current international system and a principal asset in worldwide efforts to survive in the nuclear era.

The United States is said to be hypocritical in its attitude—we supposedly monopolize nuclear knowledge so as to preclude even the legitimate access of LDC's to the benefits of cheap nuclear generated electrical power. Without debating the relative costs of nuclear and fossil energy, I would say that the U.S. is prepared to extend peaceful nuclear cooperation to countries which either adhere to the NPT or adopt full scope safeguards for their nuclear facilities. Most other nuclear suppliers take the same approach. In short, we and others would like nothing more than to help Pakistan solve its energy problems by contributing to the safeguarded development of peaceful nuclear energy in Pakistan.

We are said to be opposed to Pakistan resolving its energy shortage. But the fact is that energy is one of the key priorities for our economic aid. We are spending over \$400 million to assist Pakistan in such diverse areas as energy planning, coal exploration and exploration, development of renewable energy, rural electrification, and electrical modernization.

How often is the United States charged as well with unfairly discriminating against Pakistan vis-a-vis India? Yet, the fact is that we now have no nuclear cooperation with either Pakistan or India. Our law prohibits us from significant nuclear cooperation with any non-weapon state which is unwilling to have full scope safeguards. We comply with those laws whether the case is Pakistan, India, Brazil, South Africa, or Israel.

Since 1977, the "Symington amendment" to our foreign assistance legislation has prohibited any direct U.S. assistance to any country which delivers or receives unsafeguarded nuclear enrichment or reprocessing equipment, materials, or technology. It was this law that forced President Carter in 1979 to suspend assistance to Pakistan. This was not a matter of choice for the President and it had nothing to do with U.S. feelings toward Pakistan. It was—and is—our law.

It was only in 1981, more than a year after the Soviet invasion of Afghanistan, that the Administration was able to persuade Congress to approve a specific waiver of the "Symington amendment" thereby permitting renewed aid to Pakistan. Thus, the truth of the matter is that we discriminate in favor of Pakistan, since Pakistan enjoys a unique exception from our laws that remain applicable to other countries. The 1981 nuclear waiver permitted us to fund a multiyear assistance program which has had as its basic objective building Pakistani self-confidence by improving its defensive military capabilities, and supporting areas key to continued vigorous economic development. Pakistan now is the fourth largest recipient of U.S. bilateral aid. We are in the last year of an initial \$3.2 billion assistance program.

The follow-on multiyear program now before Congress totals just over \$4 billion. However, the nuclear waiver legislated in 1981 must again in 1987 be passed by both Houses of Congress or there will be no follow-on program. Thus, the nuclear question remains critical for our cooperation.

WHY DO WE WORRY SO MUCH ABOUT NUCLEAR WEAPONS IN SOUTH ASIA?

You may well ask: Is it Pakistan's fault that the nuclear menace hangs over South Asia? The answer is, of course, "no", but simply saying "no" does not end the problem, nor does it eliminate the specter of nuclear war. It is not that the U.S. does not appreciate the solemn assurances by Pakistani leaders that Pakistan's nu-

clear program is entirely peaceful. Indeed, we give full credit to Pakistan for the bold manner in which it has put forward a series of proposals to India the end result of which, if agreed, would be achievement of a regional solution to this regional problem. Among these are proposals for:

Simultaneous signature of the Non-Proliferation Treaty;

Simultaneous acceptance of international inspection or full scope safeguards;

Bilateral inspection of each other's nuclear facilities;

A collective and therefore binding joint declaration by India/Pakistan renouncing the acquisition or manufacture of nuclear weapons;

Agreement on a South Asian nuclear weapons free zone.

We, like you, have urged India to respond to these constructive suggestions or to table new ones of its own. The 1985 agreement "in principle" ruling out attacks against each other's nuclear facilities was a welcome first step. Unfortunately, the nuclear dialogue between India and Pakistan so tentatively begun has not been further advanced.

While Pakistan has publicly demonstrated a commitment to regional non-proliferation, I must add in all candor that there are developments in Pakistan's nuclear program which we see as inconsistent with a purely peaceful program. Indications that Pakistan may be seeking a weapons capability generate tension and uncertainty. Is ambiguity in Pakistan's national interest? Would it not be better to reduce tension? To replace uncertainty by near certainty? To accept full-scope safeguards, thereby assuring the world that nuclear programs said to be peaceful, are in fact peaceful?

Behind these questions is another. The gut question is: Would nuclear arms make Pakistan more or less secure?

In a recent issue of the *Defense Journal*, Brigadier Abdul Rahman Siddiqui urges Pakistan to "keep its nuclear options open!" His thesis revolves around the theory of deterrents and how nuclear weapons could redress the balance of power which shifted to India after the 1971 war.

I think his analysis of deterrence, while seductive as far as it goes, does not go far enough into the issue. For example, excruciatingly difficult moral and political considerations might well preclude resort to nuclear weapons—as the U.S. concluded during the Korean and Vietnamese Wars. Moreover, in strategic terms, were India, already enjoying a marked geographical advantage, also to acquire a greater nuclear weapons capability, Pakistan would have no sane, no rational, use for nuclear weapons.

While India conducted the first South Asian nuclear test in 1974, successive Indian Governments have not so far configured this capability into a deployable weapon. Moreover, Prime Minister Gandhi has repeatedly said India does not want to pursue the nuclear weapons option. But he has also said India would hold open the option in anticipation of developments in Pakistan. One may ask would it be in Pakistan's best interest to push India to produce nuclear weapons?

India has a much greater nuclear potential than Pakistan. Indeed, we are acutely aware of and concerned by the fact that India's nuclear reactors together with India's unsafeguarded reprocessing plants are quite capable of producing large amounts of plutonium usable for weapons. While India, like Pakistan, would have far more to lose than to gain from nuclear weapons, India is large enough geographically, strong enough militarily, and capable enough scientifically to be better able to survive a conflict with Pakistan.

In assessing possibilities for system stability in South Asia, it is important to note that neither Pakistan nor India can, in the foreseeable future, hope to afford the secure delivery systems (for example, missiles in hardened silos or ballistic missile submarines) needed to be confident of what is known in the jargon of nuclear deterrence as a "secure second strike capability."

Two dangerous outcomes would ensue. First, possession of nuclear weapons, especially those vulnerable to attack, would result in a highly unstable situation, with large incentives for each side to consider the preemptive use of nuclear weapons out of fear that the other side would strike first. Second, justifiable doubt about the ability of national nuclear forces to constitute a credible deterrent would force both nations to continue major conventional force modernization programs in addition to their nuclearization efforts—a very expensive proposition as we in the west unfortunately have discovered.

One must also consider the impact of a decision to acquire nuclear weapons on Pakistani relations with other nations, including the United States. Our ability under U.S. law to provide economic and security assistance to Pakistan remains dependent on Pakistani restraint in the nuclear area. In 1985, Congress legislated a new annual requirement that, for our assistance program to continue, the President

must certify that Pakistan does not have a nuclear explosive device and that our aid substantially reduces the risk it will obtain one. The President has twice so certified. For the future, I would note that it is open to question whether the President could so certify were he to conclude that Pakistan had in hand, but not assembled, all the needed components for a nuclear explosive device.

As I noted above, we must this year win approval of both Houses of Congress to extend the present Symington waiver. Thus, Congress, not just the President, will decide if we are to be able to continue aid past 1987. Were Pakistan to sign the NPT or to adopt full-scope safeguards, a positive outcome would be virtually assured.

RELATIONS WITH INDIA

Pakistan has seized the negotiating initiative with a series of proposals that would provide a regional settlement to what is admittedly a regional problem. But, if Pakistan's non-proliferation policy, however far-sighted it may be, depends on the Indian response to its proposals. Does this not amount to making Pakistan's future hostage to Indian decisions?

If Indian failure to respond positively leads to deadlock and continued drift forward in national nuclear weapons programs, which country stands to lose the most? With regret I must say that in my opinion both countries would be large losers but that Pakistan's loss would be the greater.

We share your concern over regional tensions. We regret that after three wars, distrust, even paranoia, runs deep in both countries. We applaud President Zia's "peace offensive" and Prime Minister Junejo's attempts to normalize relations with India. Both countries, in our view, have much to gain from solid friendly relations. If we and the Soviets can dialogue and negotiate to reduce tensions, why not India and Pakistan? Dialogue can advance both in expanding areas of agreement and in identifying a verification mechanism or mechanisms to assuage the considerable doubts felt to both parties about the other's intentions and capabilities.

To advance the political dialogue, I believe it is in Pakistan's interest to act unilaterally to sign the NPT. Bold Pakistani action to take the high moral ground could well forestall Indian acquisition of a nuclear weapons capability. If not, Pakistan would still be free under the treaty to reconsider its options. In the interim, such bold action would remove a significant potential stumbling block to U.S. Congressional approval of the future security assistance Pakistan needs for its defense. Even more importantly, it would open the possibility for significant international assistance for civil nuclear energy development in Pakistan.

Completion of the proposed 1,000 megawatt chasma nuclear energy reactor would become a realizable goal far sooner with international help, both technical and financial, than without it.

CONCLUSION

Pakistan, as we are all aware, has recently gone through a period of high tension in her relations with India. Fortunately, common sense prevailed and a process of force de-escalation has been negotiated. That war could have loomed so close when there appeared to be no reason for concern other than the reciprocal misperceptions of each other's military exercises is yet another proof of the existence of dangerously intense mutual distrust. Certainly this suggests that an even more consistent effort is urgently needed to place Indian-Pakistani relations on a new basis. I would think that initially a range of confidence building measures is required. Certainly, confidence in each other's intentions will not be enhanced by either country pursuing a nuclear weapons option. The recent "war scare" was bad enough. How would the leaders and the general public have felt had there been a "red alert" proclaimed while Pakistan or India or both were believed to have or known to have nuclear weapons in their arsenals? That frightening prospect, I submit, merits your most careful consideration.

Soon Pakistan will have to choose between the renunciation of nuclear weapons, their overt development, or continuation of a policy of ambiguity. Each course has for Pakistan its advantages and disadvantages, but truly Pakistan's decision is a fateful one. Indeed, the future of hundreds of millions of people in South Asia is involved. I hope your choice will be made only after full discussion and informed debate.

May God grant you and Pakistan's other decisionmakers the wisdom to make the right choice for Pakistan, for South Asia, and for the world.

Thank you.

Carnegie Endowment for International Peace

April 24, 1987

Honorable John Glenn
Chairman
Governmental Affairs Committee
U.S. Senate
Washington D.C. 20510

Dear Mr. Chairman:

Enclosed is a copy of the transcript of my testimony given before your committee on February 24, 1987, with minor editorial revisions.

On page 37 of the transcript there is an exchange between us concerning whether any nuclear threshold states had been able to obtain nuclear equipment or materials from the Soviet Union by illicit or clandestine means. I replied to your question on this by stating that I had not heard of any reports of irregular transfers of such nuclear items from the Soviet Union.

On March 20, 1987, I participated in a panel at the Columbia University Law School Wolfgang Friedmann Conference, at which one of the panel participants, Ambassador Roland Timerbaev, the Soviet Union's First Deputy Permanent Representative to the United Nations, described an episode concerning the illicit transfer of Soviet heavy water without appropriate International Atomic Energy Authority safeguards.

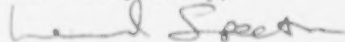
He stated that several years ago Soviet authorities had received a number of small orders for heavy water, all of less than one metric ton and all therefore not subject to the requirement that IAEA safeguards be applied to the material in the country of destination. He further stated that the material, which amounted to about 6 metric tons in all, was consolidated and transferred to a Western concern representing the supposed purchasers. However, instead of being distributed to these entities, the material was subsequently diverted, without safeguards being applied, to a country which Timerbaev did not name. I have subsequently learned from official sources that the recipient country was India. The Western concern involved is said to be a firm run by Alfred Hempel, a West German businessman, engaged in the import and export of nuclear materials.

I would request that this information be placed in the hearing record.

In addition, at page 55 of the transcript I mention a report that India was unable to account for some weapons-usable nuclear material that it had processed. I based my comment on a 1983 report in the Sunday Observer (Bombay) entitled "Plutonium Missing in Tarapur Plant", a copy of which is attached.

I would also request that this be included in the hearing record.

Yours very truly,



Leonard S. Spector
Senior Associate

Observer

Pill

NEWSPAPER

Gandhi vs Morarji: **RAJIV TIWARI** on the controversy about Arun Gandhi's book 24

Clive Lloyd interviewed by **SHIRISH NADKARNI**: 'We will avenge our defeat' 17

MS Sathyu: 'Too much of a glossy finish goes against the core of political films' 23

9 TO 16 **IN COLOUR**
SUNIL GANGO PADHYAY tells **SNM ABDI**: 'When Marxists come across sex in a novel they think it's retrograde' 23

Letters 6
Films, Television 20, 21
Sports 8, 17

The Sunday Observer (Bombay), 10/11-2/87

Plutonium missing in Tarapur plant

by Amrita Abraham

BOMBAY, October 15: About six kilograms of plutonium are missing in India's first commercial-scale reprocessing plant at Tarapur, according to highly reliable sources. This is reactor-grade plutonium but it contains at least 50 per cent pure or weapons-grade plutonium. If the Rs 20 crore plant continues to operate as it has these last ten months it may have to be shut down. This situation has been brought about by a policy of putting placent in positions of authority in BARC over the past several years. This has displaced competent scientists and left the facility in charge of people without adequate experience or knowhow.

Plutonium is one of the most potentially dangerous and difficult to handle nuclear materials. No other third world country has been able to design and build its own full-scale reprocessing plant as India has at Tarapur. The nuclear-weapons states have striven mightily to prevent the spread of reprocessing knowhow and technology because it brings non-nuclear weapons states one crucial step closer to weapons capability.

In this context, when such a large quantity of plutonium is missing to a reprocessing plant, the popular suspicion is that it is being diverted to military use. This is not the case at Tarapur because the material in the facility

is under IAEA (International Atomic Energy Agency) safeguards. There are unsafeguarded facilities in the country from which pure plutonium can be obtained if need be. It is therefore not necessary to try to divert, clandestinely, internationally safeguarded nuclear material and cause the shut down of facilities.

The plutonium has not been diverted; it is missing but somewhere in the plant. The ominous fact is that during ten months of operation, plant scientists cannot say with any certainty where a large proportion of it is.

PREFRE (Power Reactor Fuel Reprocessing Plant, its official name) has the capacity to reprocess 100 tonnes of spent fuel from nuclear power reactors (both short fuel rods from the Rajasthan Atomic Power Plant—RAPP—and long fuel rods from the Tarapur Atomic Power Station). Since last December the plant has handled 20 tonnes of RAPP fuel in three or four 'campaigns' (chemical processes). Highly reliable sources say that throughout this period an unacceptably high average of 10 per cent of plutonium has been 'material unaccounted for'.

(MUF), ie, it is possible to calculate down to the last gram how much plutonium should be recovered from the input of spent fuel but the output showed a 'loss' of 10 per cent and as of today plant scientists have not been able

to locate that 'lost' plutonium in the plant.

An equivalent amount of plutonium is believed to have gone into the liquid waste stream which will be stored in stainless steel tanks for two or three years before being vitrified (frozen in glass) and buried. (Pure plutonium has relatively low radioactivity and therefore a very long 'half-life' 24,390 years). This level of plutonium loss in the waste is also unacceptably high. In the first place it is very expensive to lose high value material that should have gone into a power reactor. Secondly the cost of waste management will go up enormously because plutonium emits alpha particles which damage glass.

Assuming such a high level of plutonium loss in the waste stream and unaccounted for plutonium somewhere in the plant, a senior BARC scientist says that the health aspect of the problem, for plant personnel and the general populace now and in the future was still 'manageable'. Nor was the safety of the plant itself in any danger as yet, he said. At the same time others emphasise, without wanting to cause alarm, that the minutest quantities of plutonium can cause irreparable damage to the human system and that the knowhow on immobilising plutonium in waste material anywhere in the world is not in a very advanced state.

continued on page 2

Plutonium missing

continued from page 1

Such a loss of plutonium is a measure of the incompetence at the plant. The Trombay research reprocessing plant, a smaller facility using a slightly different kind of fuel, also designed and built in India, showed a much higher recovery rate in its early years, perhaps 98 per cent. PREFRE itself has reprocessed Trombay research reactor fuel and shown equally high recovery rates. Internationally the state of the art is said to have reached the point where only a one per cent loss is acceptable.

For months after the plant went into full operation and the problem of plutonium loss manifested itself, those running it were unable to get material balances for uranium and plutonium. Initially they bought time by withholding information not only from the IAEA, it is reliably learnt, but also from safety committees who must, in order to perform their functions, be provided such information.

Finally a fortnight ago, after being presented with a series of input-output figures showing a substantial and persistent loss of plutonium, the Guatemalan and Brazilian IAEA inspectors insisted on better accountability and demanded more detailed information on stages of operation than the safeguards agreement provides for and also began special inspections in order to pinpoint the cause of the losses.

By the end of September it was too late to disguise the trouble. What the IAEA in Vienna now knows (though Dr Ramanna told them last week at their annual meeting that the reprocessing of RAPP fuel was a success) is that about six kgs of plutonium is unaccounted for and lost in the facility.

It should have been possible, theoretically, to obtain 45-50 kgs of plutonium from 20 tonnes of RAPP fuel. But some of the spent fuel that went into the plant was early, underused material from RAPP and its radioactivity levels would be relatively low—lower amounts of plutonium would have been produced in the reactors. (Technically, this is fuel with a low burn-up rate, about 7500 megawatt days per tonne). Therefore the recovery of plutonium should have been nearer 25 kg. What has in fact been obtained is less than 20 kgs.

Such a high level of loss over

ten months for a scientific establishment with 20 years in the reprocessing business is extraordinary. The facility is clearly maloperational. The process is the well-established solvent extraction PUREX process: fuel rods are chopped up and then dissolved in chemicals and the plutonium, uranium and fission products separated from each other. According to various sources, the trouble at PREFRE could be related to a design defect in the extraction columns or a disturbance in the air operated system because of a faulty valve.

One version says that the fuel rods were chopped up without removing their zircalloy cladding, zircalloy dust entered the system and produced unplanned chemical changes. (In the past the facility has used aluminium clad fuel rods from the Trombay research reactor and this caused no problem.) At any rate these guesses would seem to be as good as those of plant scientists now struggling to find an answer and hampered by inadequate instrumentation. It is believed to be in the tanks.

One of the causes of this ineptitude, sources say is the low level of competence at the most senior levels in the plant. It is also said that though the design group for this facility (which took 9 years to set up) is the same group that designed the original Trombay reprocessing plant, it received no feedback from the Trombay operations group. Another significant factor is that the one Indian scientist who has an international reputation in reprocessing knowledge was sidelined some time ago and now can contribute nothing to the plant. The history of this plant is a dense thicket of personality clashes, of capable men put out to pasture, men who quit or went insane, men who would know what is wrong but have sunk into passivity because of the management policies of the senior establishment.

The political problems that the plutonium loss will create are related to safeguards. The IAEA is the weapons-states' watchdog over 'special nuclear materials' and their uses in non-weapons states. RAPP is under IAEA safeguards and RAPP material is pursued wherever it goes. Hence the IAEA inspectors at PREFRE. If the IAEA finally decides on a plant clean-out and a final materials balance, PREFRE must be shut down. Or the DAE

must decide not to reprocess RAPP fuel.

That leaves the plant to reprocess spent Tarapur Atomic Power Station fuel. But India and the US have been disputing the interpretation of the 1963 Tarapur agreement on reprocessing TAPS fuel and so far New Delhi has chosen not to insist on its right to reprocess Tarapur fuel unilaterally. Without either kind of fuel, the Tarapur reprocessing plant may have to be shut down.

There is fresh evidence that New Delhi is hoping to postpone its battle with the US on this issue for some more years. Existing spent fuel storage tanks in the Tarapur power station will be full in about a year's time. After that the spent fuel must either be reprocessed or the power station must shut down. Now Mrs Gandhi's advisers have asked the DAE to consider another option. There is a proposal to build a new outdoor nuclear spent fuel storage pool at Tarapur to take fuel rods from the power station after the existing pool is full. This would pose a serious health hazard if it comes about. The implication of this move is that the reprocessing plant is intended to use RAPP fuel only for some years to come. As long as the plutonium loss continues it provides a handle to those who would like to declare the facility unsafeguardable.

If the waste stream contains about 10 per cent of plutonium the IAEA would be justified sooner or later in insisting that the waste storage tanks at Tarapur (now not safeguarded) should be put under international safeguards. Because, it is perfectly possible to reprocess this waste once again and recover plutonium.

The decision that must be made now, according to experts, is to shut down PREFRE immediately, decontaminate and modify the system—a long and expensive process. This would be an admission of failure (perhaps temporarily) but BARC reputations are at stake and such a decision is unlikely to be taken voluntarily.

Meanwhile there is a ready-made excuse: teething troubles arising from the fact that even though the plant has been in operation since 1976-77 this is the first time it has handled power reactor uranium oxide fuel like the RAPP fuel. But this is not an adequate explanation, sources say, for ten months of dangerous and expensive malfunctioning

Current
Policy No. 303

President Reagan

Nuclear Nonproliferation

July 16, 1981

United States Department of State
Bureau of Public Affairs
Washington, D.C.

Following is a statement by President Reagan on July 16, 1981.

Our nation faces major challenges in international affairs. One of the most critical is the need to prevent the spread of nuclear explosives to additional countries. Further proliferation would pose a severe threat to international peace, regional and global stability, and the security interests of the United States and other countries. Our nation has been committed on a bipartisan basis to preventing the spread of nuclear explosives from the birth of the atomic age over 35 years ago. This commitment is shared by the vast majority of other countries. The urgency of this task has been highlighted by the ominous events in the Middle East.

The problem of reducing the risks of nuclear proliferation has many aspects, and we need an integrated approach to deal with it effectively. In the final analysis, the success of our efforts depends on our ability to improve regional and global stability and reduce those motivations that can drive countries toward nuclear explosives. This calls for a strong and dependable United States, vibrant alliances and improved relations with others, and a dedication to those tasks that are vital for a stable world order.

I am announcing today a policy framework that reinforces the long standing objectives of our nation in non-proliferation and includes a number of basic guidelines. The United States will

- Seek to prevent the spread of nuclear explosives to additional countries as a fundamental national security and foreign policy objective;

- Strive to reduce the motivation for acquiring nuclear explosives by working to improve regional and global stability and to promote understanding of the legitimate security concerns of other states;

- Continue to support adherence to the Treaty on the Non-proliferation of Nuclear Weapons and to the Treaty for the Prohibition of Nuclear Weapons in Latin America (Treaty of Tlatelolco) by countries that have not accepted those treaties;

- View a material violation of these treaties or an international safeguards agreement as having profound consequences for international order and U.S. bilateral relations and also view any nuclear explosion by a non-nuclear-weapon state with grave concern;

- Strongly support and continue to work with other nations to strengthen the International Atomic Energy Agency (IAEA) to provide for an improved international safeguards regime;

- Seek to work more effectively with other countries to forge agreement on measures for combating the risks of proliferation;

- Continue to inhibit the transfer of sensitive nuclear material, equipment, and technology, particularly where the danger of proliferation demands, and to

seek agreement on requiring IAEA safeguards on all nuclear activities in a non-nuclear-weapon state as a condition for any significant new nuclear supply commitment.

I am also announcing that I will promptly seek the Senate's advice and consent to ratification of Protocol I of the Treaty of Tlatelolco.

The United States will cooperate with other nations in the peaceful uses of nuclear energy, including civil nuclear programs to meet their energy security needs, under a regime of adequate safeguards and controls. Many friends and allies of the United States have a strong interest in nuclear power and have, during recent years, lost confidence in the ability of our nation to recognize their needs.

We must reestablish this nation as a predictable and reliable partner for peaceful nuclear cooperation under ade-

quate safeguards. This is essential to our nonproliferation goals. If we are not such a partner, other countries will tend to go their own ways, and our influence will diminish. This would reduce our effectiveness in gaining the support we need to deal with proliferation problems. To attain this objective, I am:

- Instructing the executive branch agencies to undertake immediate efforts to insure expeditious action on export requests and approval requests under agreements for peaceful nuclear cooperation where the necessary statutory requirements are met.

- Requesting that the Nuclear Regulatory Commission act expeditiously on these matters.

The Administration will also not inhibit or set back civil reprocessing and breeder reactor development abroad in nations with advanced nuclear power programs where it does not constitute a proliferation risk.

The United States will support IAEA programs and other international cooperative efforts in the areas of nuclear safety and environmentally sound nuclear waste management.

To carry out these policies, I am instructing the Secretary of State, working with the other responsible agencies, to give priority attention to efforts to reduce proliferation risks, to enhance the international nonproliferation regime, and, consistent with U.S. security interests, to reestablish a leadership role for the United States in international nuclear affairs. ■

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Secretary Shultz

Preventing the Proliferation of Nuclear Weapons

November 1, 1984



United States Department of State
Bureau of Public Affairs
Washington, D.C.

Following is an address by Secretary Shultz before the United Nations Association of the USA, New York, November 1, 1984.

In the early 1960s, during the presidency of John F. Kennedy, it was the consensus of defense policy experts that by the mid-1980s—today—between 15 and 25 countries would have nuclear weapons. Serious commentators then accepted, almost without question, the idea that the spread of nuclear weapons was inexorable, advancing like a Greek tragedy to some disastrous preordained conclusion.

Well, I'm happy to say they were wrong. It's 1984, and despite the steady and rapid development of nuclear energy around the world, the number of acknowledged nuclear-weapons states has held at five since China tested its first atomic bomb 20 years ago. Only one additional country, India, has carried out any kind of nuclear explosion—and that was 10 years ago.

Clearly, the potential danger is still with us. Regional rivalries and grandiose ambitions continue to tempt some countries to flirt with the dangerous and misguided notion that their security could be enhanced by obtaining nuclear weapons or at least by creating the perception that they can do so.

But these temptations can and are being held in check. The prophets of gloom were wrong in their prediction that nuclear proliferation was inevitable, because they did not foresee the determined efforts that would be undertaken by the international community to deter the spread of these deadly weapons. Without this undertaking, the nightmare

of rampant nuclear proliferation might well have become reality.

While superpower negotiations to limit the growth of nuclear arsenals have garnered the headlines, the effort to prevent the spread of nuclear explosives has gone on largely out of the glare of publicity. Through seven administrations, the United States has led a concerted international campaign to control this threat to world peace. The endeavor has fostered a web of institutional arrangements, legal commitments, technological safeguards, and alternative means for addressing security concerns.

The ongoing antiproliferation campaign is an example of constructive diplomacy and international cooperation at its finest. In this enterprise we have found common ground not only between industrialized and developing countries, and between nuclear suppliers and nuclear consumers, but between ourselves and the Soviet Union. What we all share is the recognition that nuclear proliferation would aggravate political tensions among nations, heighten regional insecurities, and contribute to vastly greater instability in the world.

Since the day he took office, President Reagan has sought, as a fundamental objective, to reduce the dangers to world peace and global stability posed by nuclear weapons. The President's well-known efforts to achieve reductions in strategic and intermediate-range nuclear weapons have been one part of this enterprise. Prevention of nuclear proliferation has been another essential element.

In our efforts to control nuclear proliferation, like those directed toward reducing nuclear weapons, we must be

guided by realism. We cannot wish the atom away, nor should we try to. Its secrets have been unlocked, and they have brought great benefit to mankind. Peaceful use of the atom has yielded not only an economical and reliable energy source but a wealth of applications in the fields of medicine and agriculture. We are only just beginning to realize the potential of peaceful nuclear technology for raising the living standards and improving the lives of millions of the world's people.

But we cannot be blind to the potential harm that misuse of this powerful force could bring. Diversion of nuclear technology to explosive purposes could pose a threat to peace and could at the very least undermine global stability.

Many of you undoubtedly saw press accounts of the Carnegie Endowment study on the nuclear proliferation problem that was released a couple of days ago. The study publicized a fact that those of us who deal with this issue have long been acutely aware of: that as long as international tension and conflict exist, there will be insecure or irresponsible leaders who seek to shift the balance of regional power dramatically by acquiring a "secret weapon."

We and other responsible members of the international community are ceaselessly at work to deter those who might be tempted to transform the promise of nuclear energy into the peril of nuclear weapons. Although we cannot be sure that further proliferation of nuclear explosives can be prevented for all time, there is a great deal we can do to retard its pace and make it much more difficult.

Nor can the United States realistically expect to deter proliferation all by

itself. America no longer dominates the nuclear field—scientifically or commercially—as it once did. As mastery of the technology has spread, it has been harder to persuade others simply to follow our lead, let alone to dictate their actions and choices. Now more than ever, a successful nonproliferation effort requires cooperative undertakings involving both suppliers and users of nuclear technology, taking into account their energy needs, commercial interests, and concerns about their sovereignty.

Equally important, we must address the underlying causes of nuclear proliferation, not just its symptoms. Although the search for nuclear weapons might arise out of the simple megalomania of a national leader, a country is far more likely to "go nuclear" out of feelings of insecurity, usually arising from regional rivalries. The truth is that any "security" that might be gained by developing a nuclear weapons capability is likely to be illusory. Proliferation begets proliferation; it is synonymous with instability and is destructive of everyone's security.

Nevertheless, as long as that sense of insecurity exists, the threat of sanctions, although an important deterrent, may not always suffice to discourage countries with the potential to build weapons from trying to do so. If the drive to acquire nuclear weapons is to be curbed, the sources of tension and insecurity also must be addressed. We can do this by providing political, economic, and security assistance to friendly countries anxious about their security. And we can continue to lend our efforts, as we have in the Middle East and southern Africa, for example, to resolution of the conflicts that are at the root of the problem.

In my experience as Secretary of State, I have found the problem of preventing nuclear proliferation to be as complicated and as challenging—intellectually, politically, and diplomatically—as any I've had to deal with. Just as we have discovered in dealing with other intricate, morally challenging foreign policy problems, like arms reduction and human rights, effective solutions often require us to make very tough choices.

Keeping our hands clean by trying to disengage from the problem, or by shunning all relations with potential offenders, is not the answer. We must deal with the causes of the problem and offer alternatives for its solution if we are to maintain our influence with potential proliferators and not jeopardize the other, often critical, interests we may have in common. Balancing these diverse and sometimes contradictory policy considerations can involve difficult tradeoffs.

By the same token, if we are to maintain the cooperation of other nations whose participation is absolutely essential to any nonproliferation regime, we must respect their needs, their interests, and their sovereignty.

These are some of the considerations that have gone into shaping the nonproliferation policy of the Reagan Administration.

Evolution of Nonproliferation Policy

Over the last three decades, America's nonproliferation policy has benefited from a remarkable continuity and steadfastness of purpose. In 1955, soon after he was elected, President Eisenhower took a historic step in inaugurating the Atomic for Peace program. By this act, the United States volunteered to share its peaceful nuclear technologies for the good of all mankind.

The International Atomic Energy Agency (IAEA), which was also proposed by President Eisenhower, was established in 1957 as an international institution through which to pursue these same goals. The IAEA was given a dual mission: to promote the peaceful use of nuclear energy and to effectuate a system of international safeguards against diversion of nuclear materials for nonpeaceful purposes. Through the intervening years, the IAEA has assumed even greater importance as a key instrument in the nonproliferation regime. It is an agency that the United States ranks among the most important of the international institutions.

The nuclear Non-Proliferation Treaty (NPT), signed in 1968, provided a legal framework for the same effort. In adhering to the NPT, non-nuclear-weapon states undertook not to develop or acquire nuclear explosives and to accept safeguards on all their nuclear activities. At the same time, these states were assured access to peaceful nuclear technology, while nuclear suppliers committed themselves to ensuring that their nuclear exports were covered by IAEA safeguards. The parties to the treaty also agreed to make good faith efforts to slow the nuclear arms race.

The early 1970s—particularly after the 1973 energy crisis—were perhaps the halcyon days for nuclear power. Nuclear generation of electricity was increasing rapidly, and the nonproliferation regime was expanding and appearing sound. But the explosion of a nuclear device by India in 1974, notwithstanding its "peaceful use" commitments under bilateral nuclear cooperation agreements, shocked the nuclear suppliers and caused them to reassess their nonproliferation policies.

Even before the Indian blast, there was a growing realization that variations in the export policies of the different

nuclear suppliers made it difficult to apply uniform measures to deter proliferation. To close these gaps, the major nuclear suppliers convened in London in 1974 to discuss common multilateral export policies. Under the guidelines first adopted in 1976, members of the London Suppliers Group agreed to transfer certain technology, equipment, and material only if the customer nation agreed to apply IAEA safeguards to the item supplied and to ensure its peaceful use.

For nearly three decades, the United States and other nations that share our views have relied on this combination of political incentives, international safeguards, bilateral export controls, and technological constraints to hold nuclear proliferation in check. But nonproliferation strategies have had to be continuously adapted to deal with evolving technologies and changing political circumstances.

When the Carter Administration took office, its policy was fundamentally shaped by the view that nuclear energy development worldwide created significant proliferation risks. Decisions were made to defer reprocessing and plutonium use in this country. These domestic policies were paralleled by unilateral attempts to curtail the supply of nuclear technology abroad and particularly to discourage the use of plutonium-based technologies by other major industrial nations.

Rather than "setting a good example" as it was intended to do, this negative attitude toward nuclear power was seen by some of our friends as a challenge to their desire for energy independence. Thereby it reduced our influence in the international nuclear arena and eroded trust in the United States as a reliable nuclear supplier.

The enactment of the Nuclear Non-Proliferation Act during the Carter Administration represented a serious effort to promote a more stringent and uniform set of international standards for nuclear exports. At the same time, however, it precluded us from carrying out certain supply contracts and agreements to cooperate in the nuclear area, thus impairing our ability to provide incentives for countries to act in ways consistent with nonproliferation goals. As a result, we were less able to win the support of these nations on critical supply, safeguards, and other nonproliferation issues.

Reagan Administration Policies and Achievements

President Reagan, therefore, shaped an approach that was designed to facilitate cooperation with our allies and friends and to ensure an effective leadership role in international nuclear affairs.

Supporting Nuclear Power. As I said at the outset, we are realistic. In coming decades, nuclear energy will necessarily play a major role in providing environmentally safe and economically efficient electric power in the United States. Likewise, it is clear that nuclear-generated energy will be increasingly important for the economic development and energy security of many nations around the world. For these countries—Japan, for example, and much of Western Europe—nuclear power is critical to national well-being and energy security.

Making Rational Distinctions. We must make rational distinctions between rice farmers and allies who pose no great proliferation risk and those areas of the world where we have real concerns about the spread of nuclear weapons. A policy of denial toward countries with excellent nonproliferation credentials would be arbitrary as well as counterproductive. On the other hand, we are determined to maintain stringent controls to ensure that our nuclear cooperation is not misused. We recognize, in particular, a clear need to restrict sensitive nuclear activities in regions of instability and proliferation concern, like the Middle East and South Asia.

At the same time, we are striving to reduce the motivation of some states to acquire nuclear explosives by working with them to improve regional and global stability. Our \$3.2 billion package of economic and security assistance to Pakistan is a case in point.

Closer Consultation and Cooperation. In light of the earlier criticism by our nuclear partners, and the recognition that America is no longer dominant in the field, we have sought to restore an emphasis on cooperation. It is not always possible, of course, to obtain full agreement on controversial issues. But we have tried, at least, to implement our nonproliferation policy with a maximum of consultation and agreement with other nations. Our approach is designed to give our closest nuclear trading partners a firmer and more predictable basis on which to plan their vital energy programs, while at the same time furthering our nonproliferation objectives.

President Reagan has stated that the United States will not inhibit civil reprocessing and breeder reactor development in countries with advanced nuclear programs that do not constitute a proliferation risk. In keeping with this policy, the United States has been discussing with Japan and the European Atomic Energy Community long-term arrangements on reprocessing and plutonium use. We all believe that such long-term arrangements will be mutually beneficial and will enhance the global nonproliferation regime.

Our negotiations with the People's Republic of China regarding an agreement for cooperation in the peaceful uses of nuclear energy also have important implications for the strengthening of the worldwide nonproliferation regime. China's decision during the process of those negotiations to join the International Atomic Energy Agency was a significant step in this regard. Its determination to require IAEA safeguards on its future export commodities, and its strong statement that it would refrain from assisting any other nation to acquire nuclear explosives, are evidence of China's broadening commitment to the world's nonproliferation effort.

We are convinced that nuclear cooperation with China, grounded on an agreement that satisfies all the requirements of our law and policy, will advance our worldwide nonproliferation objectives, enhance our overall political relations with China, and benefit U.S. economic interests.

Although we have major differences with the Soviet Union on a wide range of arms control issues, we have broad common interests in the nonproliferation area. In the fall of 1982, Foreign Minister Gromyko and I agreed to institute bilateral consultations on nonproliferation. Since then, three rounds of useful discussions have taken place, with both sides finding more areas of agreement than disagreement. We expect to confer again on this subject later this month. It is clear that both countries consider the horizontal spread of nuclear explosives to be in no one's interest. Moreover, we agree that we both have major responsibilities in strengthening the nonproliferation regime.

Broadening the Dialogue. Some rapidly industrializing nations—such as Brazil, Argentina, and South Africa—also have active peaceful nuclear energy programs. Moreover, they are emerging as nuclear materials suppliers in their own right. We have restored a dialogue on the benefits of a strong nonproliferation regime with these countries, where our ties in the area of peaceful nuclear energy had been all but broken. We have sought their cooperation and support for our efforts to assure that nuclear exports are not misused for nonpeaceful purposes. At the same time, we have stressed that regional stability would be enhanced if they would broaden the application of international safeguards in their own nuclear programs.

We are pleased to note that the Government of South Africa has publicly undertaken to require IAEA safeguards on all of its future nuclear exports. South Africa has also reopened discussions with the IAEA on safeguarding a

significant new noncommercial enrichment plant.

Our discussions with Brazil and Argentina, we believe, have led to an increased sensitivity on their part to our nonproliferation concerns. We attach great importance to the assurances of Brazil and Argentina that their nuclear programs are devoted solely to peaceful uses, and we look forward to continuing our dialogue both in multilateral fora and in bilateral discussions.

We continue to urge all of these countries to adhere to the Non-Proliferation Treaty and, in the case of the Western Hemisphere, the Treaty of Tlatelco, and to place all of their nuclear facilities under international safeguards.

Improving U.S. Export Controls. I have talked mainly about the Administration's diplomatic and policy initiatives, but we have not neglected the technical side of the problem. In his 1981 statement on nonproliferation policy, the President affirmed that the United States would continue to inhibit the transfer of sensitive nuclear material, equipment, and technology, particularly where the danger of proliferation required restraint.

We fully recognize the risks associated with reprocessing and other sensitive nuclear technologies because of their potential direct applicability to weapons production. We appreciate the need for great caution and restraint in dealing with these risks and the importance of limiting sensitive facilities and activities to as few locations as possible. Even then, reprocessing should only be done in places where no significant risk of proliferation exists.

A small but significant number of the world's states pose a real proliferation risk. In seeking to block these states—Libya, for example—from obtaining nuclear explosives, we have employed a range of political, economic, and security measures. And, of course, we have sought to persuade other suppliers to impose similar conditions and controls. This effort has been successful thus far in preventing acquisition of nuclear weapons by unstable and irresponsible regimes, in whose hands they could create a catastrophe. But unrelenting vigilance is necessary.

Strengthening International Safeguards. Our commitment to strengthened international safeguards remains constant and firm, for we recognize that this is one area in which we cannot allow inspection capabilities to be outpaced by advancing technology. Obviously, as advanced nuclear technologies come on line around the world, the International Atomic Energy Agency must have at its disposal the trained personnel and equipment re-

quired to apply adequate safeguards. Under our Program of Technical Assistance to IAEA Safeguards, we continue to contribute importantly to this effort.

In a major arms control speech last year, President Reagan called upon all nuclear suppliers to require recipient states to accept comprehensive safeguards on all their nuclear activities as a condition for any significant new nuclear supply commitments. Over the past 3 years we have worked through diplomatic channels to develop a favorable supplier consensus on this issue.

It was, for example, one of the topics discussed at the meeting of nuclear suppliers held earlier this year in Luxembourg. The nations represented there agreed that adoption of comprehensive safeguards remains a highly desirable nonproliferation goal. We are seeking to build on the Luxembourg results by examining concrete ways of persuading additional consumer states to accept comprehensive safeguards. As we pursue our dialogue with emerging suppliers, we will work to assure that they, too, come to understand and adopt the nonproliferation ethic that traditional suppliers have developed over the past quarter century.

Sharing Benefits With the Developing World. In our efforts to develop the atom for peaceful purposes—from medicine to nuclear power—we have not ignored the legitimate needs of those technologically less advanced nations that wish to share in the peaceful benefits of the atom. We will continue to ensure, bilaterally and through the IAEA, that those benefits are made available on a reliable basis to

nations that have good nonproliferation credentials.

In East Asia and Latin America, the IAEA has recently sponsored initiatives to promote enhanced cooperation in nuclear research, development, and training. We support such regional initiatives and are examining the feasibility of broadening the Latin American effort to involve other nations of the Western Hemisphere, including the United States.

NPT Review Conference. Over the past several years, we have worked to strengthen the treaty that is at the heart of the international nonproliferation regime. Ten new countries have been persuaded to join in the last 4 years, making the Non Proliferation Treaty, with 125 parties, the most widely adhered to arms control agreement in history.

Preparations are now well underway for the 1985 conference to review the implementation of the NPT. For our part, we will work with all countries for a successful review conference in 1985. Indeed, we welcome a full debate, which, I am sure, will not overlook the treaty's critical contribution to international security and global peace.

The Continuing Priority of Preventing Proliferation

It is no exaggeration to say that controlling the spread of nuclear weapons is critical to world peace and, indeed, to human survival. It is a cause that deserves and receives a top priority in our foreign policy.

But as faithful as the stakes are, our efforts have not been widely noted. For the struggle we are waging is not on the

battlefield. It goes on in the quiet of diplomatic chambers, at meetings of technical experts, and in safeguards laboratories. Success is measured not in terms of territory liberated or new allies gained but rather in terms of confidence established, restraints voluntarily accepted, and destabilizing military options forgone.

By those measures, our nonproliferation policy has been a success. We have reestablished a spirit of confidence, both with other nuclear suppliers and with those customers of nuclear technology who share our nonproliferation goals; we have deepened our dialogue on practical cooperation; we have successfully encouraged some important countries to adopt new anti-proliferation measures; and we have made significant progress toward the conclusion of new bilateral agreements that will further strengthen the international nonproliferation regime.

But these accomplishments, important as they are, must not lull us into complacency. Thus far, we have proven wrong the prophets of unchecked nuclear proliferation. But only with determination, realism, and unflagging effort can we continue to belie their gloomy prophecy and to ensure that the potential of the atom will be exploited not to threaten civilization but to serve it. ■

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STATEMENT BY HANS BLIX, IAEA DIRECTOR GENERAL TO THE UNITED NATIONS

The IAEA Annual Report for 1985 which is now before the General Assembly gives an account of the work of the Agency for that year. My statement initiating your discussion gives me an opportunity to underline some trends and activities, to review events which have taken place this year and are, therefore, not covered in the Report, and finally, to add personal reflections on the work of the Agency and on its role as a part of the United Nations system. This kind of introduction of the item on the agenda may be especially appropriate this year, when the Chernobyl accident has prompted important new activities and developments in the field of nuclear safety and raised public questions as to the role of nuclear power. I shall deal with the broader issues and their implications before touching on some of the detailed activities of the Agency.

Six months ago the nuclear industry was able to point to some 4000 power reactor years of operating experience without a single known fatal radiation accident, or major environmental contamination. This record was tragically interrupted by the accident in the number 4 power reactor at Chernobyl. The accident prompted comprehensive Soviet measures to stop radioactive releases, to give medical care and to protect and decontaminate the environment. The destroyed reactor is now encased and two undamaged units are again, after some technical modifications, in operation. Other countries in Europe took a variety of protective measures and a series of actions was initiated at the IAEA.

Shortly after the accident, the Soviet Union invited me and two of my collaborators to Moscow and Kiev. Following an extensive briefing we discussed with the Soviet authorities the actions which could be taken within the IAEA to enable all to learn from the accident and to consider the national and international nuclear safety measures which should be adopted. In May and June, the IAEA Board of Governors decided on the actions that were to be undertaken immediately by the Agency.

Among these actions was the convocation in July and August of a governmental expert group at IAEA Headquarters to draft two international conventions on early notification of a nuclear accident and on assistance in the case of a nuclear accident or radiological emergency. Two consensus texts emerged from the four-week meeting and were adopted at a Special Session of the General Conference in September. The conventions have already been signed by some 60 States. The convention on early notification has, in fact, entered into force on 27 October 1986. Under this convention, the parties undertake to report immediately any nuclear accident which may result in a transboundary release of radiological safety significance. In the spirit of the Convention, the Soviet Union immediately notified the IAEA about the recent accident of its nuclear submarine in the Atlantic. Under the convention on assistance, the parties undertake to facilitate prompt assistance in the event of a nuclear accident or radiological emergency in order to minimize the consequences and to protect life, property and the environment.

Another action was a Post-Accident Review meeting in Vienna in August with over 500 nuclear experts from all over the world participating. A comprehensive and frank report was presented by Soviet experts and was discussed in a detailed and open manner. Against the backdrop of an

an extensive media reporting which was not always accurate, it was of great value that this remarkable international expert analysis was able not only to explain the causes of the accident, but also to reach more precise conclusions concerning the real dimensions of the accident.

Some thirty persons have died of radiation - not several thousand as was widely reported. Of major medical interest will be follow-up studies on the longer term health consequences of low-level radiation - if, indeed, there are any such consequences. The contamination caused by the accident will make a substantial area of land and forest around the plant uninhabitable for some time, perhaps for several years, but certain areas are already decontaminated. The health effects of the radiation which spread to other European countries appear not to be significant. However, contamination of land, in particular animal grazing areas, was significant in some regions, for instance in parts of Scandinavia. Many of the lessons learnt from the Chernobyl accident are specific to the RBMK type reactor and are being acted upon by the Soviet Union. Some lessons have a broader bearing, however. A consensus report summarizing the results of the expert meeting and adding recommendations for actions and programmes to strengthen nuclear safety was prepared by an international group of eminent nuclear safety experts (INSAG). As a result of that report, inter alia, a considerably expanded nuclear safety programme for the Agency is to be considered by the Board of Governors next month, and will commence in 1987.

The Special Session of the IAEA General Conference to which I referred earlier was convened in September with the sole purpose of considering measures to strengthen international co-operation in nuclear safety and radiological protection. The consensus reached by the Conference on certain basic policy questions was significant - namely

that nuclear power will continue to be an important source of energy for social and economic development; that each country is responsible for securing the highest level of safety; that there is scope for further international co-operation in nuclear safety, and that the IAEA has the central role in encouraging and facilitating such co-operation. For the Agency, this is a great challenge and the expanded safety programme has been worked out to meet it.

At this juncture, I should like to make some brief comments on the fundamental question which has been frequently heard this year, namely, whether nuclear power entails unacceptable risks. The first point to make in this regard, I think, is that many governments have already given a practical answer: today 15 per cent of the world's electricity is nuclear-generated. If this amount of electricity were to be generated by oil, it would take something like the entire 1982 Saudi Arabian oil production to achieve it. And were it to be generated by coal, it would require the annual coal production of the U.S. It has never been maintained that such a quantity of electricity can be generated without risk - whether by hydro, coal, oil, gas or nuclear - to mention those sources that can give significant new contributions to the world's supply of electricity.

In industrialized countries, the future choice of an energy source for electricity production will in most cases be limited to coal and nuclear. With coal, accidents in mines and transportation do take many lives, but the major anxiety is not about accidents. Rather it is about

the environmental consequences of the burning of huge quantities of coal. Through the emission of sulphur dioxide and nitrogen oxide, the burning of coal and other fossil fuels causes damage to forests and lakes, and the carbon dioxide which inevitably results from the combustion contributes to the risk of a rise in the temperature of the earth's atmosphere, the so-called "greenhouse effect." These harmful effects do not arise as a result of any accident, but through quite normal operations. As they are gradual processes, they do not attract our attention in the way a singular dramatic event, such as Chernobyl, does. Yet their collective impact on the sustainability of life on this planet is incomparably higher. I draw these conclusions from studies published by ECE, UNEP and WHO.

With nuclear power, the major anxiety lies with the risk of a large accident and with the radioactive waste that has to be isolated for a very long time. I think it is fair to say that, with the significant exception of Chernobyl, the risks of nuclear electricity generation to health and environment have remained precisely that - risks, while the daily and normal use of coal and oil to generate electricity have had the most serious environmental consequences. My conclusion is that nuclear power through fission is a reality we shall continue to live with. It will help our transition from the oil era to another energy era, perhaps solar power or fusion. No such new sources are around the corner, however, for the large-scale additional electricity generation which the world will need to help raise standards of living and promote development.

While it may be difficult for many to accept the conclusion that the continued and expanded use of nuclear power is needed until some other technology can provide large quantities of electricity at reasonable cost, no one will disagree with the conclusion that everything must be done to further improve nuclear safety and that this question has now acquired a much stronger international dimension. A radioactive cloud does not respect national boundaries; hence, the call for the establishment of an international nuclear safety régime ensuring a high degree of safety everywhere.

The question of binding and uniform nuclear safety norms is complex, because nuclear reactors differ from one type to another and also because siting conditions vary. Nevertheless, it should be seriously considered whether some basic common safety principles could not be established and whether there could not be a greater measure of voluntary acceptance and implementation of the IAEA's existing comprehensive nuclear safety standards. A preliminary discussion of the matter was undertaken just last week by a group of government experts meeting in Vienna.

While the question of the elaboration and adoption of some universally valid nuclear safety principles will require more intergovernmental reflection and consensus-building, a number of mechanisms which are already in existence within the Agency might be developed and used more extensively to foster nuclear safety and public confidence in it. They have one thing in common: they build on an openness that enables governments to learn from each others' experiences.

One such mechanism which may be more extensively used is the Operational Safety Review Teams (OSARTs). Under this programme, the Agency sends international teams of some 12-15 nuclear safety experts to review the operational safety of nuclear power plants at the request of national authorities. An OSART mission spends several weeks at the plant examining and exchanging information and eventually prepares a report for the inviting authority. We have had some three or four of these missions per year in the last few years. They differ, of course, significantly from safeguards inspections, which verify that peaceful nuclear installations are not used for military purposes, and have nothing to do with plant safety. In the case of safeguards, the State has legally accepted systematic inspection by the Agency. An OSART mission is invited by the State on an ad hoc basis. More and more authorities, governments and plant owners are finding it useful to hear the views of a highly competent, international team on the operational safety of their nuclear plants. The reports of OSART missions may indeed also help to create confidence in the public and between neighbouring States! We have already witnessed a spontaneous increase in the demand for OSARTs, and one can foresee arrangements under which they would develop from a sporadic ad hoc to a more regular activity.

The knowledge that both the Three Mile Island and the Chernobyl accidents were caused in large part by operator error has focussed attention and discussion on the broader question of the man/machine interface, and on the specific questions of design features to neutralize operator errors. As with any other technology, safety can always be

. 6 -

further improved. Constructors of nuclear reactors will continue to look for new technical devices which can offer good guarantees against off-site radioactive releases in case of accidents and continue to search for a next generation of highly standardized nuclear power plants with inherent safety features. Design activities will take place within the respective countries, but results may be facilitated or speeded up by an international exchange of ideas and experience.

International organizations are instruments for co-operation among Member States. In the nuclear field, these past few months have seen international co-operation at its best: governments determined to reach concrete results, willing to make mutual concessions to achieve them, and making full use of the organizations they have established. All this is especially encouraging at a time of crisis in multilateral diplomacy in general and in international institutions in particular.

On this last point, I should like to make a few comments, since the crisis at the United Nations has some direct consequences for working conditions in the IAEA.

The United Nations has been urged to streamline its administration and the recommendations of the Group of High-level Intergovernmental Experts can be seen as an input into that process. It would not be appropriate for me to comment on those recommendations, but I feel obliged to convey to the General Assembly my complete support for the general concern voiced by the Administrative Committee on Co-ordination (ACC) as regards the recommendations dealing with staff entitlements. As

ACC has pointed out, salaries for Professional and higher categories have remained unchanged for the past eleven years, subject to cost-of-living adjustments; those adjustments have been frozen for the last two years, while pension entitlements have been the object of successive reductions in the past four years.

The IAEA Professional staff, which in recent years has managed to administer an expanded programme despite a zero-growth budget, is naturally dismayed at being rewarded by an actual reduction in take-home pay over the last two years. I have received an increasing number of resignations of some of our most competent and long-serving staff, either because of the future impairment of pension rights or because of the uncertainty about entitlements and conditions. As a technical organization which relies partly on a rotation of highly competent staff, we see this as a disturbing trend that makes attracting such staff more difficult. I share the fear of ACC that "mediocrity will ultimately be the price of further reductions in staff entitlements." I trust that this is not the intention of either the Group of 18 or the General Assembly, whose wish instead is to revitalize the Organization. As the Secretary-General has stated, "to seek to solve the United Nations financial difficulties at the expense of staff entitlements would be extremely short-sighted and counter-productive."

Mr. President,

I shall now return to the main theme of this statement.

The high visibility of the Agency's activities in the field of nuclear safety this year should not lead to the erroneous conclusion that other areas of work have been de-emphasized. The Agency's entire programme has continued unabated and an approach has been maintained that seeks a balance between activities that are of interest and use to different member categories: industrialized countries and developing countries; countries with nuclear power and those without.

In the area of nuclear power and its fuel cycle, the global contribution of nuclear power units to total electricity generating capacity in the world increased last year by 14 per cent. Nuclear power presently provides between 40 and 70 per cent of the electricity in a growing number of countries or in large industrialized regions within countries. With better maintenance, management and attention to operator training, the performance of nuclear plants has improved in most countries. In Europe, for example, nuclear plants showed higher availabilities than their oil and coal-fired counterparts in all size categories.

We must note, on the other hand, that a variety of constraints work against the nuclear power option in many countries and these vary considerably. In some industrialized countries, public opposition, complicated regulatory procedures, high interest rates and policy uncertainties have acted as impediments. For developing countries the high initial capital investment is just one of the many hurdles that must be overcome. Following the requests that were made at the Third NPT Review Conference in 1985 and at the subsequent Agency General Conference, a senior expert group was established to advise the Agency on mechanisms to assist developing countries

-11-

in the promotion and financing of nuclear power programmes. In addition to investment capital, a number of other important constraints are likely to be found working against the introduction of nuclear power in the developing countries, e.g., inadequate supply of trained manpower, weak infrastructures, small electric grid sizes, and absence of adequate industrial support programmes.

Some of the constraints I have mentioned might be overcome if medium-sized reactors of simpler design with more inherent safety were available at competitive prices. Other constraints, e.g., relating to cadres, would require well-planned, long-term efforts to be overcome.

For several years now experts all over the world, basing their findings on detailed studies and designs, have been convinced that no scientific or technological breakthrough is needed to achieve safe high-level radioactive waste disposal. However, a significant sector of public opinion in several countries is still concerned about nuclear waste. Although the construction of high-level waste repositories, for good reasons, is not perceived by the nuclear community as a technologically urgent issue, demonstrated solutions to waste disposal are clearly essential for increasing the public acceptability of nuclear power in many countries.

As part of its extensive programme in the area of waste management, the Agency is planning in 1987 to initiate an inter-regional technical co-operation programme to advise developing countries on their long-term plans and strategies for the development and implementation of low- and

medium-level waste management systems. This is by far the major kind of waste in most developing countries.

I turn now to some of the other practical applications of nuclear technology and their contribution to development. Progress has been made in building up and improving radiotherapy services in developing countries for the treatment and control of cancer. Isotope techniques are also increasingly being used in studying the characteristics of groundwater resources so crucial to areas affected by desertification. A regional project in the Sahel area is planned for 1987 to help identify those areas receiving groundwater recharge and those which do not. In this way an IAEA project contributes to the broader efforts of the United Nations system to assist those African countries affected by drought to clarify the processes at work and find ways to reverse them.

Radiation and radioisotope techniques are also being more frequently used to monitor, improve and protect the environment; to study pesticide and other chemical residues in soils and crops; to reduce unnecessary use of fertilizers; to monitor trace element pollutants; and to preserve food without resorting to chemicals. Industrial applications of radiation are also attracting increased interest. Examples are the decontamination of animal food and the use of accelerators for removing toxic gas from coal and oil-burning power plants. These are some of the down-to-earth and practical applications of nuclear technology to human health, environment and development that the IAEA is helping to promote.

On the subject of advanced scientific research, I am also happy to report that the International Centre for Theoretical Physics at Trieste, which is run jointly by UNESCO and the IAEA, is being more and more highly valued by scientists from all over the world. Its programme, which aims at fostering the growth of advanced studies and research capabilities in the developing world, has expanded rapidly. Nearly 3,000 physicists now visit the Centre annually to carry out research or take part in over 20 seminars, symposia or workshops organized each year. About 75 per cent of the man-months spent at the Centre are by scientists from developing countries.

Although the IAEA has operated for several years now on a zero-growth budget, its Technical Co-operation Programme has been a notable exception. In 1985, \$36.1 million was available for the financing of technical co-operation activities. There is a consensus among the membership of the Agency that the Technical Assistance and Co-operation Fund, which is financed from voluntary contributions, be increased annually by 12 per cent for the next three years. This is an indication of the special importance attached to the programme by Member States.

Mr. President,

The General Assembly, through its First Committee, devotes a good deal of its time each year to disarmament-related issues. Verification, an issue on which many arms control agreements have stumbled, is now recognized by all as being a sine qua non for effective agreements. The IAEA's safeguards system has been repeatedly referred to in the Conference on Disarmament in Geneva as well as in other fora, as a unique experience

-14-

in international on-site verification which might serve as a model for the design of verification measures in future arms control agreements. That the experience of the Agency's safeguards system might be of relevance in arms control and disarmament contexts makes it even more important that the system function effectively and credibly, in reality as well as in perception. Conversely, should this first experiment in systematic international verification falter, it would be a setback for the prospects of nuclear arms control and nuclear disarmament.

The IAEA safeguards system is a service which the Agency provides to sovereign States to create confidence that they are complying with obligations they have assumed for the exclusively peaceful use of nuclear installations. There is no question of foreign intrusion or coercive infringement of state sovereignty. States enter into agreements to accept IAEA safeguards because they perceive them to be, like many other international obligations, in their own national interest. This confidence-building function of the safeguards system has great practical significance both globally and regionally. Without safeguards, moreover, there would be very little nuclear trade, because suppliers insist on a verification that what they sell will not contribute to a nuclear weapons capacity.

During 1985, nearly 2,000 inspections were carried out at over 500 nuclear facilities. As in previous years, no anomaly was detected which would indicate the diversion of safeguarded nuclear material for military purposes.

There is no doubt that the number of nuclear installations and the amount of nuclear material in the world will continue to increase, along with the knowledge and expertise to manufacture nuclear weapons. With determination and adequate resources, many States with a sufficiently well-developed industrial infrastructure would be able to manufacture them. Safeguards alone cannot prevent this, no matter how sophisticated they become. It is vital, therefore, that the rationale which originally led so many States to make treaty commitments renouncing nuclear weapons be maintained, and that conditions are created so that other States, too, will feel that the rationale applies to them. Such a prospect would be greatly enhanced by tangible progress in the field of nuclear disarmament and by the establishment of conditions of global and regional security and stability.

In June of this year, the Agency concluded a first full-scope safeguards agreement with a non-NPT party, Albania. Such a voluntary submission of all nuclear activities of a State to Agency safeguards is an option for a State that is not a party to the Non-Proliferation Treaty, but nevertheless wishes to submit all its nuclear activities to IAEA safeguards.

Following the decision of China last year to submit certain of its peaceful nuclear activities to Agency safeguards, an Agency team went to Beijing in August for preliminary discussions. A draft voluntary offer agreement is now being prepared by the Agency for further discussion during the first half of 1987. After conclusion of this agreement, the

Agency will be applying safeguards in all nuclear-weapon States - albeit on a modest scale.

The Third NPT Review Conference last year recommended the continued pursuit of the principle of universal application of IAEA safeguards to all peaceful nuclear activities in all States and recommended to this end further evaluation of the economic and practical possibility of extending the application of safeguards to additional civil facilities in nuclear-weapon States. While I can report that there has been some increased safeguards activity in nuclear-weapon States, I should also note that the increase has been very limited so far because of financial constraints.

On the question of safeguards in South Africa, I have, unfortunately, nothing positive to report. The situation with regard to the application of full-scope safeguards to all of South Africa's nuclear facilities has remained unchanged and no response has yet been received to my requests for the initiation of discussion on this issue. Furthermore, the Agency's negotiations with South Africa on the application of safeguards to its semi-commercial enrichment plant are at an impasse. Following my report on this question to the IAEA General Conference this year, a resolution was adopted which, inter alia, called upon all Member States which have not yet done so to halt all nuclear co-operation with South Africa, and requested the Agency's Board of Governors to consider recommending to the next session of the General Conference the suspension of South Africa from the exercise of the privileges and rights of membership in accordance with the Statute of the Agency, if by that time South Africa has not complied with the relevant

General Conference resolutions and conducted itself in accordance with the purposes and the principles of the Charter of the United Nations.

The question of Israel's nuclear capability was also included on the agenda of the General Conference this year. At the conclusion of the discussion, the Conference decided to adjourn the debate on this question and no resolution was adopted.

The question of protecting nuclear power stations against terrorist and other attacks has attracted some public attention. I may note in this regard that the Convention on the Physical Protection of Nuclear Materials, which has been concluded within the framework of the Agency, has already been ratified by 19 member States. Only two more ratifications are needed for that Convention to enter into force. I hope that they will come in the very near future. As you know, the question of an international agreement prohibiting military attacks on nuclear installations is still outstanding. The importance of reaching an agreement on this matter was rightly stressed by many States at the recent session of IAEA's General Conference. Absence of such agreement and fear of such attacks may well contribute to the concerns many people feel about the development of nuclear power.

I would like to conclude by recalling some of the lessons that we have learned this year and which we might do well to remember as we look to the future. First, if nuclear power and other applications of nuclear energy are to continue to be used to contribute to human well-being and prosperity, all scenarios which affect its safe and peaceful uses should

be scrutinized in a comprehensive manner. These scenarios include diversion of nuclear materials for military purposes, armed attacks against nuclear installations, nuclear terrorism and serious nuclear accidents. Effective measures on all these fronts are important to the world's use of atoms for peace. Second, international rules and regulations must not lag behind the leaps in scientific and technological advancement. It is gratifying that notification procedures for nuclear accidents with possible transboundary effects have now been adopted. However, it would be better to regulate our technological achievements in advance rather than on a post-mortem basis. Third, international organizations continue to perform an indispensable role in our turbulent world, despite criticisms directed against the United Nations and its system of organizations. Fourth, in the computer, space and nuclear age, co-operation among nations is an absolute necessity to reduce the risks of our modern technologies. Above all, this co-operation is required to avert the threat of the use of nuclear weapons. The international community must redouble its efforts to ensure non-proliferation, to cease the nuclear arms race and to work towards disarmament. The remarkable international solidarity and co-operation which we have witnessed in the wake of the Chernobyl accident is an example of how the world can draw together to try to ensure that technology will be used safely for the benefit of humankind.

ADDRESS BY AMBASSADOR KENNEDY AT THE UNITED NATIONS GENERAL ASSEMBLY,
NOVEMBER 11, 1986

As the United States Representative to the International Atomic Energy Agency, it is a great pleasure for me today to consider, with my distinguished colleagues, the Annual Report of the IAEA. I am particularly gratified for the opportunity to reaffirm my government's strong support for the important work of the IAEA, and to reflect briefly on its solid record of accomplishment in promoting the safe and peaceful uses of nuclear energy for the benefit of people throughout the world.

My government joins those who have commended the Director General for his excellent report and statement and for the Agency's work which it reflects. The IAEA -- its staff and its Member States -- can look with justifiable pride and satisfaction upon its ongoing safeguards and technical cooperation activities and its accomplishments in the field of nuclear safety.

Over the 30 years of its life, the IAEA has assumed ever greater importance as a key instrument in the global efforts to protect against the further proliferation of nuclear weapons, while assuring that the benefits of peaceful uses of nuclear energy are made widely available. It is an Agency which the United States ranks among the most important of the international institutions.

The vital international safeguards program which the IAEA administers provides the necessary confidence to states through-

out the world that nuclear energy is being used only in the intended peaceful ways. And, thus, the Agency's safeguards program provides the necessary underpinning for broad cooperation in the peaceful uses of nuclear energy for the benefit of all. My government is particularly gratified that the Agency has continued to strengthen its safeguards program, developing new and more effective ways to increase international confidence, while at the same time keeping a watchful eye on the resource commitments involved.

The Agency also is to be congratulated for its successful efforts to promote the widespread use of the peaceful atom. Its technical cooperation activities in nuclear energy, including nuclear medicine, in improvement of food and agriculture, contribute greatly to the well-being of peoples throughout the world.

The IAEA plays a leading role too, in efforts to assure that nuclear power is used in a way which fully protects the public health and safety. Earlier this year, following the tragic accident at Chernobyl, we were vividly reminded of the critical role of the IAEA in the field of nuclear safety. The rapid and effective response of the IAEA to that accident, and its subsequent efforts to address in a comprehensive manner its immediate and long-term consequences, amply reflect the initiative and seriousness of purpose which have, for so many years, distinguished the Agency's work.

My government wishes particularly to commend the IAEA for its support of the successful efforts by Member States to complete negotiations, within a period of weeks, on two international conventions regarding early notification and emergency assistance in the event of nuclear accidents. These conventions are significant not only for their practical application, but for the fact that they emerged from a spirit of compromise and cooperation, all too rare in multilateral fora.

This same constructive spirit was evidenced at the Post-Chernobyl experts meeting in August, and at the Special Session of the IAEA General Conference on nuclear safety in September. Each of these meetings resulted in a thoroughly constructive exchange of views, which doubtless will form the basis for the Agency's future activities in the nuclear safety area.

Mr. President, I have cited these recent initiatives by the Agency because they so clearly typify the manner in which the IAEA does its work year after year. In that light, 1985 -- on which the Director General has so well reported -- was no exception. While most of its activities are not featured on the front pages of the world's newspapers, and while most of its projects, courses and special programs receive little or no public attention, the Agency consistently approaches its work with dedication and competence. It seeks always to respond effectively to the diverse interests and needs of its Members.

At the same time, we must look to the future to assure that the IAEA remains an effective international institution -- one which maintains a clear focus on its technical mandate of safeguards, technical cooperation, and nuclear safety. In the past, the Agency on occasion has become embroiled in political controversies and issues extraneous to its statute and its mission. Such controversies unfortunately have occupied unnecessarily and undesirably the attention of its policy-making organs and governing bodies. We are pleased that there appears to be a trend away from such extraneous debate. It is incumbent on all of its members to assure that the Agency not be distracted from its vital technical missions.

My government also believes that the IAEA must continue to be the principal international institution in which all states can join together to promote the peaceful uses of nuclear energy. Thus, universality of membership must continue to be a guiding principle for the Agency. For otherwise, the goal of assuring that the peoples of the world can enjoy the greatest possible benefits of the safe and peaceful use of nuclear energy will be unattainable.

I have high confidence, Mr. President, that other Member States share our appreciation of the Agency and concur in the importance of its technical mission. I am certain that as the Agency approaches the year ahead -- a year which promises to be one of challenge and growth -- it will continue to uphold the

high standards of excellence it has established. I am equally certain, Mr. President, that the solid record of achievement which we have seen in this past year will be repeated in the next -- in no small measure, as a result of the outstanding leadership provided by Director General Hans Blix.

Before closing, Mr. President, please let me observe that my delegation has noted with interest the comments of some previous speakers concerning efforts to enhance nuclear arms control and to achieve the ultimate elimination of all nuclear weapons. My delegation would note that the United States, too, has put forward constructive, viable proposals directed toward these objectives. The United States, too, hopes that these proposals can be carefully considered by the Soviet Union as discussion of all proposals concerning nuclear weapons continues.

My government is, pleased, therefore to join with other states in supporting the resolution [No. L-32], on the IAEA Annual Report. We look forward to working with the Agency staff and with other Member States in support of the Agency's programs, which so clearly benefit us all.

Thank you, Mr. President.

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